

### Abstract

High resolution spectra of H<sub>2</sub><sup>16</sup>O vapor covering the region from 5750 to 7965 cm<sup>-1</sup> was used to determine experimental values of line positions and strengths of 3751 vibration-rotation transitions in the (110)-(000), (011)-(000), (040)-(000), (320)-(000), (021)-(000) , (200)-(000) , (101)-(000), (002)-(000), (031)-(010), (210)-(010) and (111)-(010) bands from which rotational energy levels in the (040), (120), (021), (200), (101.) and (002) vibrational states were obtained. The line strengths and frequencies reported here are considered to be a marked improvement over the values listed on the 1986 edition of the HITRAN database and a preliminary.y listing from this work has been included in the 1993 HITRAN edition.

## 1. INTRODUCTION

An extensive study involving measurements of line positions and strengths of H<sub>2</sub><sup>16</sup>O in the region between 5750 and 7965 cm-l was undertaken using a Fourier transform spectrometer (FTS) at a resolution of 0.01 cm-l. The line positions were analyzed to determine accurate values of the rotational energy levels in the (040), (120), (021), (200), (101), and (002) vibrational states. Several transitions of the "hot" bands (031)-(010), (210)-(010) and (111)-(010), were also measured as well as the high frequency end of the (110)-(000) and (01.1)-(000) bands. The experimental line strengths were compared to those given in the Air Force Geophysical Laboratory (AFGL) line parameter compilation<sup>1</sup> and large differences were found between the two for values of line strengths as well as positions for H<sub>2</sub><sup>16</sup>O in the 1.4 $\mu$ m region.

This spectral region has been studied in the past to obtain H<sub>2</sub><sup>16</sup>O vibration-rotation parameters. Toth and Margolis<sup>2</sup> observed five H<sub>2</sub><sup>16</sup>O bands in the 6950-7500 cm<sup>-1</sup> region from spectra obtained with a grating spectrometer having a resolution of  $\approx$  0.07 cm-l. Flaud and Camy-Peyret<sup>3</sup> also reported measurements of the same five bands originating from the ground state with upper states of (120), (021), (200), (101), and (002). Camy-Peyret et al.<sup>4</sup> recorded high resolution emission spectra of hydrogen-oxygen and acetylene-oxygen flames in the region between 6200 and 9100 cm-l and obtained rotational term values for the (021), (101) and (111) vibrational states including high rotational levels. Kwan<sup>5</sup> developed an analysis of the five interacting states; (101), (021), (120), (200)

and (002) of  $H_2^{16}O$ , including 396 observed energy levels given by Toth and Margolis<sup>2</sup>, which were fitted simultaneously to 96 effective parameters. Camy-Peyret et al.<sup>6</sup> measured the 5930-6440  $\text{cm}^{-1}$  region and made the first assignments of transitions in the very weak (040)-(000) band. The most recent study was reported by Mandin et al.<sup>7</sup> in which line positions and strengths of 402  $H_2^{16}O$  absorption were measured with a high resolution FTS located at the Kitt Peak National Observatory (KPNO). The measurements obtained in the present study are in good agreement with those of Mandin et al.<sup>7</sup>; however, measurements of the (040)-(000) and (120)-(000) bands and the strongest transitions in the (021)-(000), (101)-(000) and (200)-(000) bands were not included in that study' but are repoted here.

## 2. EXPERIMENT

The  $H_2O$  absorption spectra were recorded with the FTS located in the McMath solar telescope facility at KPNO. The basic experimental arraignment was employed in which IR radiation from a globar source passed through the gas "sample contained in an absorption cell and then into the vacuum tank which enclosed the FTS and finally was collected onto a liquid  $N_2$  cooled InSb detector. The composite interferogram for each spectral run consisted of at least eight co-added scans and the composite interferograms were transformed into spectral data (signal-to-noise ratio > 1.00/1) at the Kitt peak facility.

The gas sample conditions in the absorption cell for each run,

including percent abundances of the various water vapor isotopic species, are given in Table 1. For convenience, the scans are numbered in the table. Two absorption cells were used: one was 2.39 m long and the other was a 6 m base length multiple transversal cell with usable optical lengths up to 433 m. As noted in the table, gas samples represented in runs numbered 6 and 7 were composed mainly of HD<sup>16</sup>O and runs 8-10 were mainly of H<sub>2</sub><sup>17</sup>O and H<sub>2</sub><sup>18</sup>O. Runs numbered 1-10 were recorded to cover the 3500 to 9000 cm<sup>-1</sup> region and this large span enabled accurate determinations of the isotopic abundances of the various isotopic species of water vapor by a comparison of other spectra (not listed here) which have been measured in the 3500-4300 cm<sup>-1</sup> region. The HDO spectra also contained features due to D<sub>2</sub>O and these lines were known from a preliminary analysis of spectra of which the gas samples contained over 90% D<sub>2</sub>O. Total sample pressures were measured with a Baratron gauge and the sample temperatures were inferred from readings of one or more thermistor probes in thermal contact with the absorption cell walls. The estimated uncertainties in the measured pressures and temperatures were 0.5% and 1K, respectively.

With either absorption cell, the strongest H<sub>2</sub><sup>16</sup>O lines in the 5750-8000 cm<sup>-1</sup> region (mainly near 7200 cm<sup>-1</sup>) contained two added contributions due to a combination of very low pressure H<sub>2</sub><sup>16</sup>O in the vacuum tank and the other from the H<sub>2</sub><sup>16</sup>O in the open spaces between the globar source and the rest of the experimental system. These H<sub>2</sub><sup>16</sup>O features were observed in the two N<sub>2</sub>O (run no.s 11 and 12) in which, for the most part, the H<sub>2</sub><sup>16</sup>O absorption were free from

blending with absorption due to N<sub>2</sub>O. These spectra served two purposes in this study; first as an aid to frequency calibration and secondly, as a means to obtain the strengths of the very strongest H<sub>2</sub><sup>16</sup>O transitions.

### 3. MEASUREMENT ANALYSIS

The rather large frequency span of the spectra analyzed permitted absolute frequency calibration of the 5750-8000 cm<sup>-1</sup> region from known standards of H<sub>2</sub><sup>16</sup>O and N<sub>2</sub>O in the 3500 to 4800 cm<sup>-1</sup> region. Pollock et al.<sup>8</sup> accurately measured several transition frequencies of N<sub>2</sub>O in the 4300 to 4800 cm<sup>-1</sup> region and recently the 2.7 μm region of H<sub>2</sub><sup>16</sup>O, H<sub>2</sub><sup>17</sup>O, and H<sub>2</sub><sup>18</sup>O<sup>9</sup> was measured with absolute accuracies of better than 10<sup>-4</sup> cm<sup>-1</sup>, on the average. Frequency calibration using N<sub>2</sub>O absorption involved runs 11 and 12 and the H<sub>2</sub><sup>16</sup>O line frequencies derived from these runs involved the strongest H<sub>2</sub><sup>16</sup>O transitions observed in the 1.4 μm region and originating from the very low pressure H<sub>2</sub><sup>16</sup>O residual in the vacuum tank. Spectral runs labeled 1-10 in Table 1 were also used to calibrate H<sub>2</sub><sup>16</sup>O in the 5750-8000 cm<sup>-1</sup> region from known H<sub>2</sub><sup>16</sup>O, H<sub>2</sub><sup>17</sup>O, and H<sub>2</sub><sup>18</sup>O transition frequencies lying below 4400 cm<sup>-1</sup>. In all, 3751 lines of H<sub>2</sub><sup>16</sup>O were measured in the 5750 to 7966 cm<sup>-1</sup> region and the extent of the measurements in each band is given in Table 2. The table lists for each band, the number of lines measured and the frequency range with maximum values of the rotational quantum numbers J and K<sub>a</sub> for the upper and lower vibrational states.

The line centers were measured with two computer algorithms.

One is labeled linefinder, and it determines line-center positions and relative absorption peaks; the other uses a technique of non-linear least-squares (NLLS) fitting of the observed features to derive line positions, strengths, linewidths and continuum parameters. These algorithms were used recently in three studies<sup>9-11</sup> of water vapor measurements and they are described in an earlier report<sup>12</sup>. With the added H<sub>2</sub><sup>16</sup>O contributions due to the open air spaces between the IR source and vacuum tank, two line positions and approximate values of line strengths and broadening coefficients were input to the NLLS program for each H<sub>2</sub><sup>16</sup>O transition for which the air-broadened contribution was noticeable in the spectra. As mentioned in footnote c in Table 1, the H<sub>2</sub><sup>16</sup>O optical density due to the open air spaces for the N<sub>2</sub>O runs was found to be 0.125±0.003 cm·atm. and this amount is approximately the same optical density due to ambient room air in the other runs (run no. s 1-7) obtained with the 6 m base length absorption cell. A much smaller amount of air-broadened H<sub>2</sub><sup>16</sup>O was observed in the remaining spectra obtained with the 2.39 m cell.

The line strengths of the majority of the strongest H<sub>2</sub><sup>16</sup>O transitions were accurately derived from an analysis of spectral runs 8-10, in which the most absorbing spectral features were due to H<sub>2</sub><sup>17</sup>O and H<sub>2</sub><sup>18</sup>O transitions. These values were then used to determine the open air H<sub>2</sub><sup>16</sup>O content in runs 11 and 12. The air-broadened, open air, H<sub>2</sub><sup>16</sup>O contributions together with the small amount of vacuum tank H<sub>2</sub><sup>16</sup>O were fitted together in runs 11 and 12 using the NLLS program. These strength values were then normalized

to the values derived from runs 8-10. This technique was used to determine the strengths of the strongest transitions in the (010)-(000) band of  $H_2^{16}O^{10}$ .

#### 4. ENERGY LEVELS

In a recent report<sup>10</sup>, the ground state and (010) state  $H_2^{16}O$  rotational energy levels and associated, estimated uncertainties were determined from microwave, far infrared and combination difference frequencies. The combination difference frequencies were derived from experimental transition frequencies observed in the region from 1000 to 4500 cm<sup>-1</sup>. The measured line positions obtained in the present study of the six ground state bands (excluding the (011)-(000) and (110)-(000) bands) were used along with the ground state term values<sup>10</sup> to derive values of rotational energy levels and associated, estimated uncertainties in the upper vibrational states by adding to each measured transition frequency of a band, the appropriate ground state level. These results were weighted and then averaged for each level. The analysis of the two other bands, (011)-(000) and (110)-(000), will be included in another report which will present measurements over the entire region in which transitions of the two bands are located.

Measurements of the three "hot" bands included in the present study were assigned from calculations of transition frequencies using the upper state energy levels given by Flaud et al.<sup>13</sup> and the (010) vibrational state levels reported by Toth<sup>10</sup>.  $H_2^{16}O$  "hot" bands

were not included in the AFGL compilation<sup>1</sup> for this spectral region.

Table 3 lists values of the rotational energy levels obtained in this work for the (101), (200), (002), (021), (120), and (040) vibrational states along with the associated uncertainties.

## 5. RESULTS

Table 4 is a listing of the ground state transitions measured in this study. Entries for the table include the observed line position, observed minus computed, o-c, line position, rotational quantum assignments, observed strength, estimated uncertainty in the measured strength, %s, the ratios, RI and R<sub>2</sub>, and the last entry denotes the upper state vibration. RI is the ratio of the observed strength to that given in the 1986 HITRAN compilation<sup>1</sup> and R<sub>2</sub> is the ratio of the measured strength to that observed by Mandin et al.<sup>7</sup>. A preliminary listing derived from the present data set has been included in the current HITRAN database<sup>14</sup>. This listing includes the strengths of the majority of the transitions given in Table 4. The ones excluded were transitions with line strengths values of approximately 0.05 cm<sup>-2</sup>/atm. and greater. The observed line positions are given to 3, 4 or 5 places past the decimal which are indications of the accuracy of each measurement. Obviously, the most accurate measurements are those with five significant figures past the decimal and these values are known to ±0.00006 cm<sup>-1</sup> in precision whereas the absolute uncertainty is estimated to be ±0.0001 cm<sup>-1</sup>. The computed frequencies were derived from the

rotational energy levels given in Table 3 and the ground state levels given in ref. 10. Since the (011)-(000) and (110)-(000) bands were not analyzed here, values of o-c for these transitions were left vacant in Table 4.

The estimated uncertainties in the measured strengths, %s, given in the table vary from 2% to 15% and those with %s  $\leq$  10% reflect, for a given transition, the uncertainty as derived from the variations in the values of the measurements taken from the spectra. In fact, several of the entries with %s = 2% may even be of higher accuracy; however, a lower limit of 2% was used throughout this study. Entries with %s = 15% have a large range of uncertainty attached to the line strength value, from possibly less than 10% to as much as 60%. This rather large span was due to one or more of the following reasons: (a) blending, (b) weakness of the transition and (c) poor agreement between strength values derived from the various spectra for a given transition. Also the strength of a few lines were not determined (strength entry left vacant in the table) and for these, the NLLS program was of little or no use and the frequencies were determined using the linefinder program. Absorption marked with an asterisk are doubled lines of comparable transitions of the same band and the strength listed represents the sum of the strengths of the two lines. For these features, the rotational quantum assignment shown in the table represents the stronger transition from which the computed frequency was derived.

As noted in Table 4, the measured strengths are given for a temperature of 297K whereas the gas samples of the various spectra

(listed in Table 1) ranged between 296 and 298K. By this token, it was necessary to normalize the measured strength values obtained from the spectra to a temperature of 297K by using the following relation,

$$S(297) = S(T) (T/297)^{5/2} \exp[-1.4388 E''(1/297 - 1/T)], \quad (1)$$

where  $S$  is the line strength in  $\text{cm}^{-2}/\text{atm.}$ ,  $E''$  is the lower state vibration-rotation energy in  $\text{cm}^{-1}$  and  $T$  is the gas sample temperature in Kelvin. The line strengths given in the AFGL listing<sup>1,14</sup> are in units of  $\text{cm}^{-1}/\text{mol}\cdot\text{cm}^{-2}$  at 296K and the values of RI were computed by first converting the strengths in the compilation to  $\text{cm}^{-2}/\text{atm.}$  at 296K (multiplicative factor of  $2.48 \times 10^{19}$ ) and then obtaining the ratio. The line strength values reported by Mandin et al.<sup>7</sup> were given in  $\text{cm}^{-2}/\text{atm.}$  at 300K and these values were converted to values at 297K with the use of eq. (1) and the lower state energies listed in ref. 10 before computing the ratios,  $R_2$ . On the average,  $R_2 = 0.97630.060$  which indicates excellent agreement between their results and this study for the 402 lines they measured.

Table 5 is a similar listing for observations in the "hot" bands: (031)-(010), (210)-(010) and (1.11)-(010). The line strengths derived from the measurements were also normalized to a temperature of 297K with the aid of eq.(1) and the energy levels of the (010) state<sup>10</sup>.

## 6. DISCUSSION

Transition frequencies and strengths measured in this study provide an improvement over those given in the AFGL listing<sup>1</sup> as do those obtained by Mandin et al.<sup>2</sup> although their data was not as extensive as reported in the present study. The frequency calibration used by Mandin et al.<sup>2</sup> resulted in line frequencies somewhat higher than in this work. However, their reported positions can be normalized to agree with this work by the application of a factor of 0.99999992(3) to their values. The AFGL listing of H<sub>2</sub>O in this spectral region was derived from studies done prior to that of Mandin et al.

The use of the spectra obtained from gas samples containing a higher abundance of other water isotopes than H<sub>2</sub><sup>16</sup>O (run no.s 6-9 in Table 1) served another useful function in this work in that they supplied useful information regarding the location and relative strengths of H<sub>2</sub><sup>17</sup>O, H<sub>2</sub><sup>18</sup>O and HDO transitions in the 1.4μm region. This knowledge, in turn, was used to compensate for blending between H<sub>2</sub><sup>16</sup>O absorption and other isotopic species in the analysis of the spectra measured. A preliminary study of line positions and strengths of the other water vapor variants has been done and when complete they will be the subject of two other reports: the first will involve H<sub>2</sub><sup>17</sup>O and H<sub>2</sub><sup>18</sup>O observations and the second will cover the HD<sup>16</sup>O results.

## 7. ACKNOWLEDGEMENTS

The author wishes to thank the Kitt Peak National Observatory for

the use of the FTS and to J. Wagner and C. Plymate for their assistance in obtaining the H<sub>2</sub>O spectra. The Atmospheric Trace Molecule Spectroscopy (ATMOS) dedicated Computer Facility was used in the analysis of the experimental data. The research described in this paper was performed at the Jet Propulsion Laboratory, California Institute of Technology, under contract with The National Aeronautics and Space Administration.

### References

- 3 . L. S. Rothman, R. R. Gamache, A. Goldman, L. R. Brown, R. A. Toth, H. M. Pickett, R. L. Poynter, J.-M. Flaud, C. Camy-Peyret, A. Barbe, N. Husson, C. P. Rinsland, and M. A. H. Smith, "The HITRAN database: 1986 edition," Appl. Opt. 26, 4058-4097 (1987).
2. R. A. Toth and J. S. Margolis, "Line positions of  $H_2O$  in the 1.33 to 1.45 micron region," J. Mol. Spectrosc. 55, 229-251 (1975) .
3. J.-M. Flaud and C. Camy-Peyret, These' d'Etat Universite Pierre -et-Marie-Curie (CNRS no. A011443), Paris 1975.
4. C. Camy-Peyret, J.-M. Flaud, J. -P. Maillard and G. Guelachvili, "Higher ro-vibrational levels of  $H_2O$  deduced from high resolution oxygen-hydrogen flame spectra between 6200 and 9100  $cm^{-1}$ ," Mol. Phys. 33, 1641-1650 (1977).
5. Y. Y. Kwan, "The interacting states of an asymmetric top molecule  $XY_2$  of the group  $C_{2v}$ ," J. Mol. Spectrosc. 71, 260-280 (1978) .
6. C. Camy-Peyret, J.-M. Flaud and J.-P. Maillard, "The  $4v_2$  band of  $H_2^{16}O$ ," J. Phys. Lett. 41, L23-L26 (1980).
7. J.-Y. Mandin, J. -P. Chevillard, C. Camy-Peyret and J.-M. Flaud, "Line intensities in the  $v_1+2v_2$ ,  $2v_2+v_3$ ,  $2v_1$ ,  $v_1+v_3$ ,  $2v_3$ , and  $v_1+v_2+v_3-v_2$  bands of  $H_2^{16}O$  between 6300 and 7900  $cm^{-1}$ ," J. Mol. Spectros. 118, 96-102 (1986).

8. C. R. Pollock, F. R. Petersen, D. A. Jennings J. S. Wells and A. G. Maki, "Absolute frequency measurements of the 00°2-0000 bands of N<sub>2</sub>O by hetrodyne spectroscopy," J. Mol. Spectrosc. **107**, 62-71 (1984) .
9. R. A. Toth, "The 2v<sub>2</sub>-v<sub>2</sub> and 2v<sub>2</sub> bands of H<sub>2</sub><sup>16</sup>O, H<sub>2</sub><sup>17</sup>O, and H<sub>2</sub><sup>18</sup>O : line positions and strengths", J. Opt. Soc. B (in press)
10. R. A. Toth, "v<sub>2</sub> band of H<sub>2</sub><sup>16</sup>O: line strengths and transition frequencies", J. Opt. Soc. Am. B **8**, 2236-2255 (1991).
11. R. A. Toth "Transition frequencies and absolute strengths of H<sub>2</sub><sup>17</sup>O and H<sub>2</sub><sup>18</sup>O in the 6. 2pm region", J. opt. Soc. Am. B **9**, 462-482 (1992).
12. L. R. Brown, J. S. Margolis, R. H. Norton and B. D. Stredry, "Computer-assisted measurements of line strengths with application to the methane spectrum," Appl. Spectrosc. **37**, 287 -292 (1983).
13. J.-M. Flaud, C. Camy-Peyret, K. N. Rae, Da-Wun Chen and Yan -Shek Hoh, "Spectrum of water vapor between 8050 and 9370 cm<sup>-1</sup>," J. Mol. Spectrosc. **75**, 339-362 (1979).
14. L. s. Rothman, R. R. Gamache, R. H. Tipping C. P. Rinsland, M. A. H. Smith, D. C. Benner, V. M. Devi, J.-M. Flaud, C. Camy-Peyret, A. Perrin, A. Goldman, S. T. Massie, L. R. Brown, and R. A. Toth, "The HITRAN molecular database: editions of 1991 and 1992," J. Quant. Spectrosc. Rad. Transfer **48**, 469-507(1993).

Table 1. Experimental conditions

run no.	res. <sup>a</sup>	sample	sample	per cent abundance					
		press.	temp.	path	H <sub>2</sub> <sup>16</sup> O	H <sub>2</sub> <sup>17</sup> O	H <sub>2</sub> <sup>18</sup> O	HD <sup>16</sup> O	N <sub>2</sub> O
		Torr	(K)	(m)					
1	0.012	14.3	297	433	99.9	0.037	0.207	0.044	
2	0.032	9.20	297	433	99.9	0.038	0.210	0.048	
3	0.012	1.05	298	433	99.9	0.036	0.203	0.05	
4	0.012	1.24	298	98.4	99.9	0.036	0.203	0.05	
5	0.012	1.24	298	25.4	99.9	0.036	0.203	0.05	
6	0.012	5.00	297	25.4	29.8	0.011	0.060	47.4	
7	0.012	5.00	297	75.0	32.5	0.012	0.066	47.7	
8	0.011	1.07	296	2.39	16.0	53.0	31.4	ND <sup>b</sup>	
9	0.011	5.06	296	2.39	1.4.3	57.1	28.0	ND	
10	0.011	1.4.1	296	2.39	13.2	59.5	27.5	ND	
11	0.012	1.00	296	25.4	c				100
12.....0,02.2	1.00	296	98.4	--.c	-				--.100

a. Unanodized spectral resolution in cm<sup>-1</sup>

b. ND, not determined

c. H<sub>2</sub><sup>16</sup>O absorption due to the H<sub>2</sub>O content in the open spaces between the absorption cell and the entrance to the vacuum tank which enclosed the FTS plus due to a very low H<sub>2</sub>O pressure in the vacuum tank. The H<sub>2</sub><sup>16</sup>O optical density in the open air spaces was 0.125±0.003 cm·atm. of which the air pressure in the room was 601 Torr and the air temperature was 296K. The H<sub>2</sub>O content inside the tank was ≈ 0.02 cm·atm.

Table 2. Extent of H<sub>2</sub><sup>16</sup>O measurements. Band centers and frequencies in cm<sup>-1</sup>

band	band center	mess.	no. lines freq.	max. freq.	max. values of quantum no.			
					J	K <sub>a</sub>	upper J	lower K <sub>a</sub>
(040)-(000)	6134.01482	151	5904.189	6539.273	12	4	12	5
(120)-(000)	6775.09297	378	6301..950	7411.020	11	6	12	7
(021)-(000)	6871.52042	691	6273..033	7804.610	15	8	16	8
(200)-(000)	7201.54020	653	6545.012	7939.592	14	8	15	9
(101)-(000)	7249.81837	863	6522.960	7902.728	18	10	17	10
(002)-(000)	7445.04530	519	6657.367	7965.302	14	9	14	9
(031)-(010)	6779.102	120	6572.114	7046.185	11	7	10	7
(210)-(010)	7166.833	66	6876.698	7360.285	8	4	9	4
(111)-(010)	7212.255	149	6932.351	7387.919	12	6	11	6
(110)-(000)	5234.9747	39	5750.851	5978.755	13	8	12	7
(011)-(000)	5331..2671	.122	.5754.126	6152.337	15	9	14	7

**Table 3. Rotational energy levels of the (101), (200), (002), (021), (120) and (040) vibrational states of H<sub>2</sub><sup>16</sup>O in cm<sup>-1</sup>. Uncertainties in cm<sup>-1</sup> × 10<sup>5</sup>**

J	K <sub>a</sub>	K <sub>c</sub>	(101)	(200)	(002)	(021)	(120)	(040)	J	K <sub>a</sub>	K <sub>c</sub>			
0	0	0	7249. 81837	10	<b>7201.54020</b> <b>20</b>	7445. 04530	10	6871. 52042	15	6775. 09297	10	6134. 01482	40	
1	0	1	7273. 00000	<b>15</b>	7224. 58070	10	7468. 34147	5	6895. 14783	15	6798. 51896	5	6157. 75250	8
1	1	1	7284. 74250	<b>14</b>	7236. 80764	<b>4</b>	7479. 63551	10	6913. 66818	8	6818. 31085	40	6194. 79360	40
1	1	0	7289. 98113	10	7241. 99452	4	7484. 93655	25	6919. 57157	5	6824. 11748	5	6201. 06672	20
2	0	2	7317. 91735	10	7269. 31333	7	7513. 42981	4	6941. 16296	4	6844. 23519	5	6204. 44365	20
2	1	2	7325. 22803	6	7277. 68819	8	7520. 93445	15	6955. 08886	5	6859. 37401	10	6236. 05915	25
2	1	1	7341. 80267	<b>5</b>	7293. 20814	6	7536. 81233	15	6972. 73796	4	6876. 76046	5	6254. 85486	5
2	2	1	7376. 57916	<b>6</b>	7329. 42025	8	7570. 46362	15	7027. 35022	10	6935. 00618	7	6359. 04766	36
2	2	0	7377. 97677	8	7331. 62289	3	7571. 93545	15	7028. 54944	<b>4</b>	6936. 07676	6	6359. 78205	50
3	0	3	7382. 28822	6	7333. 55302	5	7577. 97305	10	7007. 42872	10	6910. 24989	9	6272. 62885	9
3	1	3	7386. 24840	6	7338. 25124	4	7582. 01626	7	7016. 72575	4	6920. 29347	9	6297. 47836	40
3	1	2	7418. 05827	<b>5</b>	7368. 97355	11	7613. 42341	11	7051. 49082	6	6954. 83343	5	6334. 89346	47
3	?	2	7445. 57946	<b>8</b>	7398. 40734	8	7640. 38676	10	7098. 06992	5	7005. 35052	6	6430. 62125	20
3	2	1	7451. 87300	10	7405. 23814	6	7647. 07774	10	7103. 61319	10	7010. 23277	7	6434. 18855	20
<b>3</b>	<b>3</b>	<b>1</b>	7517. 49836	<b>7</b>	7472. 95248	<b>12</b>	7709. 66656	22	7201. 79320	25	7114. 61172	7	6604. 31943	10
3	3	0	7517. 74503	<b>11</b>	7473. 06138	6	7709. 93675	<b>14</b>	7201. 95275	10	7114. 63500	9	6604. 37868	50
<b>4</b>	<b>0</b>	<b>4</b>	7464. 43707	4	7415. 59915	4	7660. 31996	10	7091. 91858	9	<b>6994.57574</b> <b>9</b>	9	6360. 50900	50
<b>4</b>	<b>1</b>	<b>4</b>	7466. 23546	5	7417. 84285	5	7662. 18639	18	7096. 72208	8	7000. 45123	8	6378. 56139	20
<b>4</b>	<b>1</b>	<b>3</b>	7517. 21214	<b>4</b>	7467. 77236	4	7713. 08143	21	7154. 47833	12	7057. 11848	12	6440. 35496	15
<b>4</b>	<b>2</b>	<b>3</b>	7536. 56616	10	7489. 35345	5	7732. 30388	25	7191. 37358	8	7098. 14620	9	6525. 29894	25
<b>4</b>	<b>2</b>	<b>2</b>	7552. 36534	8	7505. 81263	10	7749. 46651	10	7205. 41957	7	7112. 63971	18	6535. 45728	15
<b>4</b>	<b>3</b>	<b>2</b>	7611. 81050	11	7568. 20455	8	7805. 30323	30	7298. 39153	9	7211. 74688	22	6701. 47963	36
<b>4</b>	<b>3</b>	<b>1</b>	7613. 43071	19	7568. 89106	6	7807. 07468	22	7299. 46109	7	7211. 44360	80	6701. 88409	24
<b>4</b>	<b>4</b>	<b>1</b>	7707. 63906	15	7665. 53547	10	7897. 44590	9	7435. 15545	<b>15</b>	7354. 09525	15	6919. 93653	40
<b>4</b>	<b>4</b>	<b>0</b>	7707. 71853	15	7665. 57165	6	7897. 48763	<b>15</b>	7435. 17338	7	7354. 10723	18	6919. 94144	50
5	0	5	7563. 94605	13	7514. 94703	22	7760. 14129	8	7193. 64422	10	7096. 13059	26	6466. 51394	55
5	1	5	7564. 67259	5	7515. 91321	8	7760. 90281	30	7196. 14188	16	<b>70.99.26985</b> <b>20</b>	20	<b>6478.79942</b> <b>14</b>	5
5	1	4	7636. 97311	<b>7</b>	7587. 38639	25	7833. 39557	15	7279. 72429	4	7181. 82085	5	6570. 06(47	11
5	2	4	7648. 76663	<b>6</b>	7601. 30928	<b>5</b>	7845. 23467	<b>12</b>	7306. 48909	10	7212. 60109	13	6642. 48528	<b>21</b>
5	2	3	7677. 25956	8	7632. 64667	7	7878. 11179	9	7338. 98793	10	7241. 70488	30	6664. 35388	11
5	3	3	7729. 55320	11	7688. 64954	6	7924. 59779	40	7419. 03131	4	7328. 62084	27	6822. 86883	24
5	3	2	7735. 32680	13	7690. 43440	5	7930. 85272	30	<b>7423.00099</b> <b>9</b>	9	7333. 78865	<b>12</b>	6824. 41885	<b>15</b>
5	4	2	7825. 81951	8	7784. 28334	4	8017. 62015	30	7556. 37371	9	7474. 50948	<b>13</b>	7041. 95768	21
<b>5</b>	<b>4</b>	<b>1</b>	7826. 30458	9	7784. 49351	4	8017. 97002	30	7556. 52659	13	7474. 61448	9	7041. 99355	20
5	5	1	7945. 96688	15	7906. 96499	8	8132. 69778	29	7723. 60394	10	7650. 32973	<b>13</b>	5	5
5	5	0	7945. 96816	15	7906. 99020	11	8132. 70316	40	7723. 62646	25	7650. 33386	<b>21</b>	5	5
6	0	6	7680. 92657	17	7631. 70601	10	7877. 87170	<b>40</b>	7312. 49247	8	7214. 73489	<b>10</b>	6589. 73539	6
6	1	6	7681. 21295	<b>7</b>	7632. 08765	8	7877. 85339	<b>40</b>	7313. 71118	7	7216. 29753	<b>16</b>	6597. 73020	20
6	1	5	7774. 99748	<b>6</b>	7725. 44900	5	7972. 56234	16	7424. 84076	8	7326. 70489	<b>12</b>	<b>6722.49989</b> <b>25</b>	6
6	2	5	7781. 21933	11	7733. 30321	10	7978. 19563	<b>41</b>	7442. 48162	7	7347. 84152	6	6781. 50254	21
6	2	4	7836. 64254	<b>7</b>	7784. 02997	8	8031. 11063	23	7495. 31420	<b>10</b>	7397. 14981	<b>19</b>	6821. 63438	50
6	3	4	7870. 45837	<b>10</b>	7821. 68963	15	8066. 81035	35	7563. 21226	9	7472. 52587	6	6968. 22280	23
6	3	3	7884. 53729	7	7838. 91123	5	8082. 31770	40	7573. 80155	19	7482. 87545	<b>15</b>	6972. 60822	10
6	4	3	7967. 29952	12	7926. 99458	10	8161. 88795	12	7701. 96694	5	7619. 12535	25	7188. 25219	15
<b>6</b>	<b>4</b>	<b>2</b>	7969. 67459	<b>14</b>	7927. 92019	7	8163. 47664	28	7702. 71256	7	7619. 60788	20	7188. 41097	50
6	5	2	8087. 95786	15	8049. 32582	7	8277. 37790	30	<b>7868.61994</b> <b>14</b>	14	7795. 06853	33	6550. 50254	21
6	5	1	8087. 97646	10	8049. 49192	8	8277. 43748	25	7869. 35417	6	7795. 09863	36	6550. 51394	55
6	6	1	8230. 65477	70	8195. 79741	10	8413. 77323	20	8063. 01241	20	7999. 17526	40	6664. 35388	11
6	6	0	8230. 65477	70	8195. 79962	20	8413. 77323	20	8063. 01251	20	7999. 17565	<b>10</b>	6664. 35388	11
7	0	7	7815. 54783	10	7765. 97418	8	8012. 21257	7	7448. 62095	7	7350. 15159	<b>13</b>	6729. 89704	10
7	1	7	7815. 66021	11	7766. 14441	8	8014. 15008	6	7449. 20125	13	7351. 22677	<b>15</b>	6734. 97866	<b>15</b>
7	1	6	7929. 98612	15	7880. 50415	8	8125. 81301	15	7587. 74130	15	7489. 65811	<b>15</b>	6895. 86351	51
7	2	6	7932. 92200	15	<b>7884.46324</b> <b>15</b>	15	8130. 39723	15	7598. 35039	10	7503. 01105	50	6941. 63554	7
7	2	5	8007. 96041	8	7957. 66894	6	8205. 80753	20	7676. 29721	10	7577. 11828	<b>41</b>	7003. 91922	40
7	3	5	8032. 64542	8	7985. 28545	9	8231. 02487	35	<b>7730.18512</b> <b>10</b>	10	<b>7638.99658</b> <b>25</b>	25	7135. 52324	50
7	3	4	8060. 70538	6	8014. 57415	20	8261. 12754	40	7752. 54692	10	7659. 65635	16	7135. 52324	50
7	4	4	8135. 40313	7	8093. 58825	7	8329. 89162	21	7871. 76017	<b>15</b>	7787. 89031	15	7135. 52324	50
7	4	3	8138. 81135	5	8096. 59413	20	8334. 95537	<b>15</b>	7874. 25663	<b>15</b>	7789. 54465	20	7135. 52324	50
7	5	3	8253. 97657	6	8215. 32474	23	8446. 08937	7	8039. 68260	9	7963. 77454	<b>18</b>	7135. 52324	50
7	5	2	8254. 10772	18	8215. 95395	8	8446. 41071	10	8039. 38670	15	7963. 93123	20	7135. 52324	50
7	6	2	8395. <b>94684</b>	8	8362. 40095	15	8584. 00390	80	8233. 40760	30	8166. 55000	500	7135. 52324	50
7	6	1	8395. 94161	20	8362. 43764	25	8584. 01353	15	8233. 41177	10	8166. 54384	60	7135. 52324	50
<b>7</b>	<b>7</b>	<b>1</b>	8559. 71585	25	8530. 40775	40	<b>8738.82599</b> <b>150</b>	150	8448. 75140	80	8448. 75140	80	7135. 52324	50
7	7	0	8559. 71585	25	8530. 40775	40	<b>8738.82599</b> <b>150</b>	150	8448. 75140	80	8448. 75140	80	7135. 52324	50
8	0	8	7967. 85241	11	7917. 72269	<b>15</b>	8165. 24897	15	7602. 16355	15	7503. 35170	30	6887. 06034	20
8	1	8	7967. 89844	16	7917. 95866	20	8164. 70882	60	7602. 44407	12	7503. 87141	15	6890. 27038	20

**Table 3. continued**

J	K <sub>a</sub>	K <sub>c</sub>	(101)	(200)	(002)	(021)	(120)	(040)	J	K <sub>a</sub>	K <sub>c</sub>
8	3	5	8261. 53083 8	8216. 20398 20	8465. 52434 25	7958. 42352 15	7864. 05607 19		8	3	5
8	4	5	8324. 19162 8	8283. 72181 8	8520. 96608 <b>15</b>	8065. 43277 10	7980. 85434 12		8	4	5
<b>8</b>	<b>4</b>	<b>4</b>	8334. 85257 5	8291. 54653 35	8533. 35253 35	8072. 00792 19	7985. 02308 15		8	4	4
8	5	4	8444. 04992 8	8404. 50387 25	8638. 70342 31	8233. 73025 18	8156. 19124 32		8	5	4
8	5	3	8444. 70816 5	8406. 58208 15	8639. 92941 20	8233. 79574 16			8	5	3
8	6	3	8585. 41532 35	8552. 70902 10	8777. 54750 50	8427. 77119 10			8	6	3
8	6	2	8585. 39272 <b>15</b>	8552. 99273 8	8777. 59955 40	8427. 79354 6			8	6	2
8	7	2	8748. 42950 <b>40</b>	8721. 13771 35	8929. 65165 100	8643. 78675 20			8	7	2
8	7	1	8748. 42950 40	8721. 13876 <b>40</b>	8929. 65165 100	8643. 78675 20			8	7	1
8	8	1	8943. 39755 30	8910. 80074 50	9105. 96488 50	8882. 69495 50			8	8	1
8	8	0	8943. 39755 30	8910. 80074 50	9105. 96488 50	8882. 69495 50			8	8	0
9	0	9	8137. 85565 25	8087. 39507 11	8335. 48811 10	7773. 18419 10	7673. 77777 8	7061. 37991 56	9	0	9
9	1	9	8138. 00844 15	8087. 45285 10	8335. 53985 40	7772. 93112 8	7674. 13782 65	7063. 42138 45	9	1	9
9	1	8	8290. 67268 13	8240. 86017 7	8488. 02994 20	7963. 50261 32	7865. 59852 28	7297. 74400500	9	1	8
9	2	8	8291. 62794 9	8241. 83123 25	8486. 87355 50	7966. 67863 15	7870. 33453 <b>15</b>	7321. 84080 50	9	2	8
9	2	7	8412. 63183 10	8361. 78491 34	8610. 01016 40	8101. 59123 15	8001. 63079 19		9	2	7
9	3	7	8419. 79333 8	8369. 43182 30	8624. 84990 50	8128. 66703 8	8035. 55916 100		9	3	7
9	3	6	8482. 46697 <b>13</b>	8441. 58265 15	8692. 96919 30	8187. 03950 30	8094. 84371 33		9	3	6
9	4	6	8535. 72794 15	8503. 73368 8	8734. 21303 25	8281. 94094 20	8202. 12244 40		9	4	6
<b>9</b>	<b>4</b>	<b>5</b>	8558. 23387 11	8513. 54626 10	8757. 78227 20	8296. 87436 10	8211. 86844 100		9	4	5
9	5	5	8657. 91049 8	8614. 34126 20	8854. 92162 25	8451. 79898 15	8375. 45063 100		9	5	5
9	5	4	8660. 38128 44	8621. 78430 20	8858. 59765 20	8452. 76128 20	8376. 21276 100		9	5	4
9	6	4	8798. 64170 35	8772. 25201 50	8994. 46200 40	<b>8645. 95953</b> 25			9	6	4
9	6	3	8798. 60388 20	8772. 58412 50	8994. 68900 36	8646. 05353 25			9	6	3
9	7	3	8961. 05885 40	8939. 59225 80	9139. 67506300	8862. 42955 50			9	7	3
9	7	2	8961. 01895 30	8939. 59225 80	9139. 68422 40	8862. 43150 300			9	7	2
9	8	2	9161. 85182 40		9320. 09731 300	9093. 03525 20			9	8	2
9	8	1	9161. 84776 40		9320. 09731 300	9093. 03525 20			9	8	1
9	9	1	9338. 76120300		9513. 41505 50				<b>9</b>	<b>9</b>	<b>1</b>
9	9	0	9338. 76120300		9513. 41505 50				9	9	0
10	0	10	8325. 28021 19	<b>8274. 56469</b> 6	8523. 78433 20	7961. 69820 25	7861. 63595 25	7253. 00048 10	10	0	10
10	<b>1</b>	10	8325. 35662 25	8273. 90424 7	8523. 79384 45	7961. 72550 25	7862. 04009 15	7254. 31934 25	10	1	10
10	0	1	8496. 90207 8	8446. 70640 6	8696. 04489 32	8176. 46629 9	8078. 45131 20		1	0	1
10	0	2	8496. 73920 11	8447. 62733 20	8694. 33308 20	8178. 09918 20	8080. 85147 100		1	0	2
10	0	2	8639. 11372 20	8588. 50468 15	8836. 85194 40	8341. 40923 10	8239. 87467300		1	0	2
10	0	3	8642. 34526 43	8593. 17870 25	<b>8840. 04557</b> 25	8358. 61763 15	8276. 81388 15		1	0	3
10	0	3	8744. 81584 8	8686. 98064 10	8940. 59271 40	8452. 13794 <b>15</b>			1	0	3
10	0	4	8768. 83878 20	8719. 84406 12	8968. 65418 30	8521. 50498 30			1	0	4
10	0	4	8807. 71840 15	8762. 22296 28	9004. 20800 300	8549. 24284 <b>15</b>			1	0	4
10	0	5	8894. 95898 15	8859. 76144 25	9094. 22390 20	8693. 52248 20			1	0	5
10	0	5	8901. 99145 9	8865. 64000 500	9101. 67464 40	8696. 61303 26			1	0	5
10	0	6	9035. 69754 20	9010. 40393 40	9234. 67441 40	8887. 79230 40			1	0	6
10	0	6	9035. 78522 18	9014. 01594 50	9235. 45183 40	8888. 12146 40			1	0	6
10	0	7	9197. 45514 40		9373. 90666 40	9104. 45244 25			1	0	7
10	0	7	9197. 31195 24		9374. 18000800	9104. 46783 15			1	0	7
10	0	8	9403. 03113 40						1	0	8
10	0	8	9403. 01471 50						1	0	8
10	0	9	9588. 31310 100						1	0	9
10	0	9	9588. 31310 100						1	0	9
10	10	1	9851. 95716 50						10	10	1
10	10	0	9851. 95716 50						10	10	0
11	0	11	8530. 58419 40	8478. 78405 13	8729. 67185 50	8167. 69980 50	8067. 04712 8	7462. 03723 45	11	0	11
11	<b>1</b>	11	8530. 59595 50	8478. 87949 <b>13</b>	8729. 68222 <b>50</b>	8167. 68940 <b>20</b>		7462. 75000 500	11	1	11
11	1	10	8719. 46789 26	8669. 96418 6	8919. 68734 300	8406. 50255 30			11	1	10
11	2	10	8720. 23630 16	8669. 12121 15	8920. 18800 50	8407. 29035 35			11	2	10
11	1	2	8882. 66347 <b>15</b>	8831. 35056 10	9079. 85457 40	8597. 05347 25			1	1	2
11	1	3	8883. 03752 27		9076. 57778 30	8607. 32000 30			1	1	3
11	1	3	9007. 83035 35	8952. 44875 40	9205. 75350 40	8730. 16217 50			1	1	3
11	1	4	9022. 49273 25	8979. 76177 50	9223. 38417 70	8782. 72230 25			1	1	4
11	1	4	9086. 44760 60		9297. 70159 50	8827. 15318 50			<b>11</b>	<b>4</b>	<b>7</b>
11	1	5	9154. 45039 35	9118. 50070 50		8958. 39667 30			1	1	5
11	1	5	9170. 24292 25		9372. 45879 50	8966. 78259300			1	1	5
11	1	6	9296. 35658 25			9153. 03317 40			1	1	6
11	1	6	9297. 19343 25		9500. 21541 130	9154. 00979 90			1	1	6
11	1	7	9457. 53238 40						1	1	7
<b>11</b>	<b>7</b>	<b>4</b>	9457. 15002 55						<b>11</b>	<b>7</b>	<b>4</b>
11	1	8	9668. 23395 100						<b>11</b>	<b>8</b>	<b>4</b>
11	1	8	9668. 23395 100						1	1	8
12	0	12	8753. 24915 35	8701. 04500 150	8953. 16005 90	8391. 19380 8		7688. 56000 500	12	0	12
12	1	12	8753. 22863 50	8701. 04674 40	8953. 16005 90	8391. 13035 16		7689. 16516300	12	1	12

**Table 3. continued**

J	K <sub>a</sub>	K <sub>c</sub>	(101)	(200)	(002)	(021)	J	K <sub>a</sub>	K <sub>c</sub>	
12	1	11	8960. 78806 25	8909. 05186 15		8653. 81262 30	12	1	11	
12	2	11	8961. 13575 25	8909. 81648 25		8654. 09505 30	12	2	11	
12	2	10	9141. 59665 30	9091. 33517300		8868. 71800 15	12	2	10	
12	3	10	9141. 37264 20	9092. 73814 50	9338. 41010 50	8874. 36179300	12	3	<b>10</b>	
1	2	3	9	9288. 39731 25	9236. 98034 300	9025. 95570 15	1	2	3	9
1	2	4	9	9295. 64824 70	9252. 46800 50	9059. 98603 50	1	2	4	9
1	2	4	8	9375. 95714 30		9131. 71998 20	1	2	4	8
1	2	5	8	9435. 56112 40			1	2	5	8
1	2	5	7	9464. 60342 8			1	2	5	7
1	2	6	7	9580. 07650 50			1	2	6	7
1	2	6	6	9583. 27636 35			1	2	6	6
1	2	7	6	9740. 34884 300			1	2	7	6
1	2	7	5	9740. 39855 60			1	2	7	5
1	2	8	5	9955. 57800300			1	2	8	5
1	2	8	4	9955. 58000 100			<b>12</b>	<b>8</b>	<b>4</b>	
13	0	13	8993. 46495 40	8940. 55166 15	9194. 17385 40	8632. 09500 300	13	0	13	
13	1	13	8993. 46338 20	8940. 55200 100	9194. 17385 40	8632. 09868 40	13	1	13	
13	1	12	9219. 17744 45	9168. 24731 300		8918. 14819 50	13	1	<b>12</b>	
13	2	12	9219. 10257 35			8918. 43709 8	13	2	12	
13	2	11	9416. 30742 30			9145. 60215 300	13	2	11	
13	3	11	9416. 95183 15	9368. 79462 50		9149. 35902 50	13	3	11	
13	3	10	9584. 95927 40				13	3	10	
13	4	10	9587. 30686 40				13	4	10	
1	3	5	9	9737. 39560 60			1	3	5	9
1	3	6	8	9886. 61785 50			1	3	6	8
<b>14</b>	0	<b>14</b>	9251. 04028 90	9197. 37590 100	9452. 39185 50	8889. 17810 50	14	0	<b>14</b>	
14	1	<b>14</b>	9251. 04100 200	9197. 37590 100	9452. 39185 50	8889. 17810 50	<b>14</b>	<b>1</b>	<b>14</b>	
<b>14</b>	1	13	9494. 68715 50			9200. 24658 50	14	1	13	
14	2	13	9494. 68775 30				<b>14</b>	2	13	
<b>14</b>	2	12	9709. 39830 40				<b>14</b>	2	12	
<b>14</b>	3	<b>12</b>	9710. 09160300				<b>14</b>	3	<b>12</b>	
<b>14</b>	3	<b>11</b>	9893. 58855 8				<b>14</b>	3	11	
<b>14</b>	4	<b>10</b>	10051. 71401 20				<b>14</b>	4	10	
<b>15</b>	0	15	9525. 92583 40			9165. 35190 100	15	0	15	
<b>15</b>	1	15	9525. 92583 40			9165. 35190 100	15	1	15	
15	1	<b>14</b>	9787. 38000300				<b>15</b>	<b>1</b>	<b>14</b>	
15	2	<b>14</b>	9787. 37651 40				<b>15</b>	2	<b>14</b>	
15	2	13	10019. 27135 40				15	2	13	
15	3	13	10019. 25292 40				15	3	<b>13</b>	
16	0	16	9818. 03755 220				16	0	16	
16	1	16	9818. 03755 220				16	1	16	
16	1	15	10097. 17992 300				16	1	15	
16	2	15	10097. 18100300				16	2	15	
17	0	17	10127. 28250 100				17	0	17	
17	1	17	10127. 28250 100				17	1	17	
17	1	16	10424. 44000300				17	1	16	
17	2	16	10424. 45026 100				17	2	16	
<b>18</b>	<b>0</b>	18	10452. 98520 50				18	0	18	
18	1	18	10452. 98520 50				18	1	18	

**Table 4. Measured line positions ( $\text{cm}^{-1}$ ) and strengths ( $\text{cm}^{-2}/\text{atm. at 297K}$ ) of  $\text{H}_2^{16}\text{O}$  transitions originating from the ground state and observed between 5750 and 7970  $\text{cm}^{-1}$**

observed position o-c	upper J	lower K <sub>a</sub>	observed strength	Xs	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J	lower K <sub>a</sub>	observed strength	%s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	
5750.8507	8 5 4	7 2 5	<b>1.44E-05</b>	3	1.06		110	5865.91585	9 5 4	8 2 7	<b>3.61E-06</b>	3	1.41		110	
5752.5681	1 0 2 8	9 1 9	<b>2.22E-06</b>	3	1.03		110	5867.0893	8 6 3	7 3 4	<b>1.85E-06</b>	2	1.57		110	
5753.4200	1 0 4 7	9 1 8	<b>2.27E-05</b>	2	0.94		110	5867.43072	7 6 1	6 3 4	<b>2.75E-06</b>	3	1.73		110	
5754.09550	7 5 2	7 0 7	<b>8.70E-07</b>	2	1.31		110	5869.32166	13 5 8	12 39	<b>1.55E-06</b>	5	0.85		011	
5754.1264	9 5 5	9 1 8	<b>4.97E-06</b>	3	0.95		011	5869.43553	945	8 1	<b>1.93E-06</b>	3	1.37		110	
5755.14660	6 5 1	5 2 4	<b>4.45E-06</b>	2	1.09		110	5870.16896	9 6 3	8 4 4	<b>4.10E-05</b>	2	0.92		011	
5756.93015	11 3 8	10 2 9	<b>3.55E-06</b>	2	0.85		110	5878.63402	7 5 2	6 1 5	<b>1.64E-05</b>	3	1.03		011	
5756.9539	13 86	13 6 7	<b>1.46E-06</b>	3			011	5879.10683	9 6 4	8 4 5	<b>1.25E-04</b>	2	0.92		011	
5757.50370	1 0 4 6	6 9 2	<b>2.81E-04</b>	2	0.95		011	5881.45967	5 5 1	<b>4 1 4</b>	<b>1.79E-06</b>	5	1.03		011	
5758.0598	836	7 1 7	<b>2.34E-04</b>	3	0.98		011	5883.7170	10 6 4	9 4 5	<b>5.77E-05</b>	2	0.91		011	
5759.9910	7 5 2	6 3 3	<b>2.64E-04</b>	4	0.90		011	5883.792	10 6 5	93 6	<b>6.07E-07</b>	15	2.38		110	
*5760.1715	9 8 1	8 7 2	<b>2.73E-06</b>	10	0.34		110	5891.78761	7 7 0	6 5 1	<b>2.42E-05</b>	2	0.97		011	
5761.5574	8 4 5	7 2 6	<b>2.78E-04</b>	4	0.91		011	5891.8214	7 7 1	6 5 2	<b>7.13E-05</b>	2	0.95		011	
5763.9267	1 0 3 7	1 0 1 1 0	<b>2.47E-06</b>	4	1.05		011	5892.7662	8 6 2	7 3 5	<b>8.70E-07</b>	10	2.26		110	
5765.95507	1 0 3 8	8 9 0	<b>9.16E-06</b>	3	1.03		110	5893.38875	11 5 7	10 3 8	<b>4.47E-05</b>	2	0.95		011	
5767.36253	9 4 6	6 9 0	<b>4.09E-06</b>	3	0.95		011	5893.548	7 5 3	6 0 6	<b>4.48E-07</b>	15	1.66		110	
5767.43605	9 5 5	8 2 6	<b>3.50E-06</b>	3	1.01		110	5893.64705	8 4 4	7 0 7	<b>5.56E-05</b>	3	1.29		011	
5771.917	10 8 2	10 6 5	<b>3.97E-07</b>	15	1.33		011	5901.63736	12 66	11 4 7	<b>8.05E-06</b>	2	0.88		011	
5772.6532	9 8 2	2 963	<b>4.37E-07</b>	10	0.93		011	5902.6127	1 0 6 5	9 4 6	<b>1.99E-05</b>	2	0.92		011	
5772.970	8 8 1	8 6 2	<b>2.98E-07</b>	7	0.49		011	5904.18908	-2 6 1 1 0 1 1 2 1 1 2	<b>6.11E-07</b>	10	1.01		040		
5773.000	8 8 0	863	<b>8.93E-07</b>	7	2.02		011	5908.69210	1 1 2 9 1 0 0 1 0	<b>1.74E-05</b>	2	1.18		011		
5779.6730	550 5	1 5	<b>2.77E-07</b>	8	0.93		011	5909.6274	1 4 5 9 1 3 3 1 0	<b>1.03E-06</b>	3	0.88		011		
5781.7965	10 6 5	10 1 9	<b>6.21E-07</b>	10	0.97		011	5910.4668	<b>13 6 7 12 4 8</b>	<b>7.95E-07</b>	4	0.83		011		
5783.98857	<b>6 4 2</b>	5 0 5	<b>1.37E-04</b>	2	0.99		011	5911.7551	8 5 3	7 1 6	<b>5.02E-05</b>	3	1.06		011	
5785.23148	9 5 4	8 3 5	<b>1.03E-04</b>	2	0.92		011	5913.74516	11 3 9	10 1 10	<b>5.08E-05</b>	3	1.13		011	
5787.42653	75 2	62 5	<b>1.24E-05</b>	2	1.17		110	5915.15375	8 7 1	7 5 2	7.1 0E-05	3	0.94		011	
5789.6465	1 0 5 6	9 2 7	<b>9.90E-06</b>	2	1.00		110	5915.3420	8 7 2	7 5 3	<b>2.34E-05</b>	2	0.93		011	
5793.02913	9 2 7	8 0 8	<b>1.08E-04</b>	2	1.02		011	5918.0025	13 2 11 12 1 12	<b>1.31E-06</b>	2	2.16		110		
5797.52398	1 0 5 5	9 3 6	<b>1.47E-04</b>	2	0.90		011	5919.03326	12 3 9 11 1 10	<b>1.84E-05</b>	2	1.05		011		
5798.0295	11 4	810 1	9	2.37E-06	4	0.96		110	5920.2147	9 6 3	8 3 6	<b>1.23E-06</b>	5	2.14		110
5798.56958	8 5 4	7 3 5	<b>1.70E-04</b>	3	0.91		011	5923.3096	<b>14 68 13 4 9</b>	<b>6.00E-07</b>	7	0.78		011		
5798.91491	11 4 7	10 28	2.22E-05	2	0.90		011	5925.0563	6 5 2	5 1 5	<b>1.38E-06</b>	2	1.03		011	
5799.39691	103 7 9	1 8	<b>1.84E-04</b>	2	0.96		011	5925.8827	1 1 0 0 1 0 1 1 1 1 1	<b>5.40E-07</b>	6	1.12		040		
5799.8938	9 6 4	9 2 7	<b>1.05E-06</b>	4	1.04		011	5927.2094	2 2 1 0 1 1 0 1 1 0 1 1	<b>1.62E-06</b>	6	1.11		040		
5801.93079	9 4 6	8 2 7	<b>3.77E-04</b>	4	0.91		011	5927.41425	11 66	10 4 7	<b>2.47E-05</b>	2	0.95		011	
5803.50437	8 4 4	7 1 7	<b>3.08E-06</b>	2	1.09		110	5931.4802	12 5 8 11 39	<b>5.05E-06</b>	3	1.00		011		
5804.4622	6 5 1	6 1 6	<b>7.00E-07</b>	3	0.93		011	5937.41888	9 7 2 8 5 3	<b>1.55E-05</b>	2	0.92		011		
5804.5267	5 5 1	4 0 4	<b>1.93E-07</b>	15			110	5938.1594	9 7 3 8 5 4	<b>4.65E-05</b>	2	0.92		011		
5807.5640	7 6 2	7 2 5	<b>1.18E-06</b>	3	1.99		011	5940.65188	1 2 4 9 1 1 2 1 0	6.38E-06	3	1.05		011		
5809.03548	937 8	<b>1</b> 8	<b>2.97E-04</b>	4	0.95		011	5946.83018	32 9 0 9 10 110	<b>3.37E-06</b>	3	1.08		040		
5809.6100	1 1 2 9	1 0 1 1 0	<b>3.90E-06</b>	2	1.16		110	5947.0203	8 5 4 7 0 7	<b>1.79E-06</b>	4	3.33		110		
5809.71545	660 5	4 1	<b>2.67E-04</b>	4	0.95		011	5948.8893	34 9 1 9 10 010	<b>1.19E-06 10</b>	1	1.13		040		
5809.94168	6 6 1	5 4 2	<b>8.91E-05</b>	2	0.95		011	5952.4989	9 5 4 8 1 7	1.1 0E-05	3	1.10		011		
5811.554	1 0 4 7	1 0 0 1 0	<b>4.44E-07</b>	15	1.05		011	5954.2110	12 6 7 11 4 8	<b>2.80E-06</b>	2	0.93		011		
5811.78108	9 6 3	10 110	<b>1.95E-05</b>	2			110	5957.95918	10 73 9 5 4	2.39E-05	2	0.91		011		
5814.6690	1 1 5 7	1 1 1 1 0	<b>5.19E-07</b>	5	0.94		011	5959.444	7 7 0 6 4 3	<b>5.03E-07</b>	15			110		
5819.9315	1 1 3 9	1 0 0 1 0	<b>1.30E-06</b>	2	0.99		110	5960.25378	10 74 9 5 5	<b>8.04E-06</b>	2	0.91		011		
5820.11476	11 5 7	10 2 8	<b>4.51E-06</b>	2	0.94		110	5962.0322	9 4 5 8 0 8	<b>5.44E-06</b>	3	1.13		011		
5824.03503	8 5 3	7 2 6	<b>2.66E-06</b>	6	1.28		110	5963.5125	1 2 2 1 0 1 1 0 1 1	1.79E-05	3	1.21		011		
5827.08931	9 5 5	8 3 6	<b>2.70E-04</b>	4	0.92		011	5966.1439	12 3 10 11 1 11	<b>6.25E-06</b>	4	1.25		011		
5830.8032	550 4	1 3	2.29E-06	3	0.96		011	5966.85028	11 808 9 1 9	<b>2.17E-06</b>	4	1.09		040		
5832.19305	7 6 1	6 4 2	9.94E-05	2	0.95		011	5968.4082	88 0 76 1	<b>2.16E-05</b>	2	0.99		011		
5833.24358	7 6 2	6 4 3	<b>2.88E-04</b>	4	0.92		011	5970.10187	0 8 1 8 909	<b>6.42E-06</b>	3	1.06		040		
5834.5376	7 4 3	6 0 6	<b>3.21E-05</b>	2	1.03		011	5972.5182	1 3 5 9 1 2 3 1 0	<b>4.27E-06</b>	2	<b>0.99</b>		011		
5837.12542	12 5 7	11 3 8	<b>1.85E-05</b>	2	0.87		011	5974.10796	753 6 1 6	<b>5.33E-06</b>	2	1.14		011		
5838.4415	6 6 1	5 3 2	<b>1.75E-06</b>	2	<b>1.44</b>		110	5975.89142	11 74 10 5 5	<b>3.24E-06</b>	2	0.87		011		
5840.46475	12 5 8	11 29	<b>9.50E-06</b>	2	0.91		110	5975.9558	1 4 4 1 0 1 3 2 1 1	<b>9.40E-07</b>	10	0.94		011		
5843.29555	6 6 0	5 3 3	<b>6.21E-07</b>	9	1.54		110	5976.7231	13 3 10 12 1 11	<b>1.71E-06</b>	10	1.01		011		
5844.7699	1 2 4 9	1 1 1 1 0	<b>2.34E-06</b>	3	0.97		110	5978.7552	8 7 2 7 4 3	4.59E-07	10	1.42		110		
5845.7026	1 0 4 7	9 2 8	<b>5.45E-05</b>	2	0.99		011	5981.79242	11 75 10 5 6	<b>9.88E-06</b>	2	0.86		011		
5845.9898	6 5 2	5 0 5	<b>1.14E-06</b>	4	1.40		110	5983.5385	13 6 8 12 4 9	<b>2.56E-06</b>	3	0.96		011		
5851.9365	1 0 2 8	9 0 9	<b>1.29E-04</b>	2	1.05		011	5985.73422	-6 707 8 1	<b>1.03E-05</b>	2	1.03		040		
5852.25736	6 5 1	5 1 4	<b>2.79E-05</b>	2	1.01		011	5987.20052	7 6 1 6 2 4	<b>1.06E-06</b>	2	1.09		011		
5852.71528	8 6 2	7 4 3	<b>2.21E-04</b>	4	0.95		011	5990.12556	1 3 4 1 0 1 2 2 1 1	<b>5.96E-06</b>	2	1.13		011		
5854.8580	76 2	63 3	<b>7.75E-07</b>	3	1.46		110	5990.21588	12 75 11 5 6	<b>3.49E-06</b>	3	0.87		011		
5856.17936	8 6 3	7 4 4	<b>7.36E-05</b>	3	0.94		011	5990.9148	<b>.12 7 1 7 808</b>	<b>3.47E-06</b>	3	1.01		040		
5858.58338	10 5 6	93 7	<b>4.04E-05</b>	2	0.95		011	5992.39377	9 8 1 8 6 2	4.40E-06	4					

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strengths	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band									
6003. 25623	5	6	0	6	7	1	7	5.22E-06	2	1.07	040	6125. 84133	-7	4	2	3	5	1	4	7.63E-06	2	1.15	040			
6004. 9400	0	6	2	4	7	3	5	9.00E-07	15	2.31	040	6126. 95971	106	8	3	6	9	2	7	7.60E-07	10	1.27	040			
6007. 0799	0	8	1	7	9	2	8	2.50E-06	15	4.94	040	6128. 4157	-89	6	4	3	7	5	2	7.10E-07	10	0.91	040			
6010. 2627	-4	8	7	1	6	8	2	7	2.89E-06	3	1.13	040	6152. 3371		1	0	7	3	9	3	6	5.39E-07	3	0.91	011	
6011. 48668	12	6	1	6	7	0	7	1.65E-05	2	1.07	040	6153. 317	-789	5	4	2	6	5	1	4.80E-07	15		040			
6012. 89150	-15	6	1	5	7	2	6	1.37E-06	2	1.08	040	6153. 394	-6	9	5	4	1	6	5	2	1.13E-06	3	2.98	040		
6015. 37512	1	5	2	3	6	3	4	2.16E-06	4	1.24	040	6155. 1242	1	3	2	2	4	1	3	1.89E-06	2	1.11	040			
6015. 5090	1	0	8	2	9	6	3	8.08E-06	2	0.90	011	6177. 2717	-67	1	1	0	1	0	1	4.96E-06	2	0.93	040			
6015. 6468	1	0	8	3	9	6	4	2.85E-06	4	0.95	011	6177. 8608	6	7	4	4	1	5	5	0	2.28E-06	2	3.83	040		
6016. 48673	-7	4	2	3	5	3	2	1.66E-06	3	1.23	040	6184. 7640	-5	5	2	1	1	2	0	2	2.13E-06	4	0.95	040		
6016. 80862	1	3	2	1	1	2	1	1.99E-06	3	1.30	011	6185. 6815	-36	2	2	1	3	1	?	3.92E-06	4	1.63	040			
6017. 15527	6	5	1	4	6	2	5	5.23E-06	2	1.06	040	6185. 8130	1	3	6	3	4	7	2	5	2.31E-06	3	1.42	040		
6018. 0628	1	3	3	1	1	2	1	1	2	6.	01E-06	2	1.29	011	6193. 1325	1	3	0	3	2	1	2	7.94E-07	2	1.12	040
6019. 0329	9	6	3	8	2	6	2	2.49E-06	2	1.07	011	6198. 13148	-33	3	1	2	3	0	3	5.99E-06	3	0.96	040			
6019. 26122	-33	5	0	5	6	1	6	1.90E-05	2	1.03	040	6208. 83177	0	4	2	2	5	1	5	1.24E-06	6	1.17	040			
6023. 9030	2	0	2	1	2	3	2	1	1.43E-06	5	0.82	040	6209. 3506	44	3	2	1	4	1	4	3.91E-06	2	1.20	040		
6024. 1462	0	4	1	3	5	2	4	1.95E-06	3	1.03	040	6217. 1013	-1	9	5	2	3	6	1	6	2.94E-06	2	1.29	040		
6024. 8618	1	3	7	1	2	5	8	1.25E-06	3	0.95	011	6217. 5030	-57	2	2	0	3	1	3	7.88E-07	3	1.23	040			
6028. 78513	8	5	4	7	1	7	1	1.51E-06	2	1.26	011	6218. 2323	178	4	0	4	3	1	3	1.00E-06	3	1.05	040			
6028. 8225	0	9	2	8	1	0	1	9	2.30E-06	15	7.60	040	6218. 3022	0	4	1	3	4	0	4	1.63E-06	4	1.00	040		
6031. 4892	1	2	4	2	2	5	3	8.20E-07	10	1.07	040	6220. 0955	17	5	3	3	6	2	4	9.80E-07	5	1.44	040			
6031. 8981	1	4	3	1	1	1	3	1	1.88E-06	3	1.37	011	6241. 67620	65	5	0	5	4	1	4	5.23E-06	3	0.89	040		
6032. 10291	6	5	1	5	6	0	6	6.92E-06	2	1.03	040	6241. 7999	1	6	4	1	4	3	0	3	1.85E-06	7	0.78	040		
6033. 88329	-20	4	0	4	5	1	5	6.46E-06	2	0.98	040	6244. 7186	-13	5	1	4	5	0	5	3.30E-06	4	0.96	040			
6034. 53147	33	3	1	2	4	2	3	5.48E-06	3	0.98	040	6254. 9694	47	4	3	2	5	2	3	2.61E-06	3	1.32	040			
6036. 9857	16	6	3	4	7	4	3	5.00E-07	5	1.33	040	6256. 7465	-16	5	1	5	4	0	4	1.53E-06	2	0.80	040			
6037. 0574	7	6	2	6	2	5	5	1.58E-06	6	1.10	011	6259. 7560	-46	7	2	5	8	1	8	1.16E-06	2	1.73	040			
6037. 4524	1	1	8	3	1	0	6	4	1.20E-06	7	0.85	011	6259. 9604	18	4	2	2	4	1	3	2.03E-06	3	1.14	040		
6037. 93708	1	1	8	4	1	0	6	5	3.65E-06	2	0.86	011	6260. 8734	65	3	2	1	3	1	2	6.93E-06	3	1.18	040		
6042. 0309	10	6	4	9	2	7	1	6.03E-06	3	1.03	011	6263. 0000	2	6	3	3	7	2	6	9.40E-07	5	1.57	040			
6043. 1103	71	8	2	7	9	1	8	2.26E-06	3	1.22	040	6263. 1098	-8	6	0	6	5	1	5	2.25E-06	2	0.81	040			
6046. 77809	-62	3	2	2	4	3	1	7.65E-07	10	1.09	040	6264. 6063	18	2	2	0	2	1	1	1.79E-06	3	1.19	040			
6047. 7905	4	3	0	3	4	1	4	1.69E-05	2	0.96	040	6264. 89542	-92	5	2	3	5	1	4	4.22E-06	3	1.09	040			
6048. 5535	8	2	1	1	3	2	2	1.33E-06	7	0.86	040	6269. 7039	-45	5	1	4	4	2	3	1.35E-06	10	0.76	040			
6051. 67153	-11	3	2	1	4	3	2	2.94E-06	2	1.16	040	6271. 0334	-20	10	0	10	11	2	9	9.00E-07	8	3.24	021			
6053. 21341	-4	4	1	4	5	0	5	2.30E-05	3	1.04	040	6271. 50745	6	5	3	2	6	2	5	3.55E-06	6	1.48	040			
6057. 79571	1	2	8	4	1	1	6	5.47E-06	5	0.89	011	6272. 38203	-23	6	1	6	5	0	5	6.30E-06	3	0.75	040			
6058. 6297	0	1	1	1	2	2	0	1.30E-06	15	1.78	040	6275. 8036	28	6	1	5	6	0	6	8.10E-07	6	1.05	040			
6058. 7450	-7	7	2	6	8	1	7	1.38E-06	3	1.25	040	6279. 5513	0	2	2	1	2	1	2	5.43E-06	3	1.22	040			
6058. 9126	1	1	5	6	1	0	1	1.69E-06	3	1.14	011	6282. 64471	6	7	0	7	6	1	6	6.96E-06	2	0.77	040			
6062. 16517	0	2	0	2	3	1	3	3.89E-06	3	0.89	040	6285. 6751	-2	3	4	3	1	5	2	4	1.20E-06	5	1.53	040		
*6063. .8063	1	0	9	1	9	7	2	3.17E-06	2	0.98	011	6288. 2822	11	7	1	7	6	0	6	2.29E-06	2	0.75	040			
6065. 0886	6	5	3	3	6	4	2	2.75E-07	15	1.10	040	6288. 34277	0	3	2	2	3	1	3	2.24E-06	4	1.16	040			
6066. 16510	0	1	1	0	2	2	1	2.35E-06	2	0.77	040	6288. 5399	4	3	3	1	4	2	2	4.20E-07	5	1.04	040			
6067. 6938	-14	5	3	2	6	4	3	1.43E-06	4	1.72	040	6299. 7053	21	7	2	5	7	1	6	1.25E-06	3	1.02	040			
6069. 1857	1	4	2	1	2	1	3	1.60E-06	2	1.27	011	6300. 46100	45	4	2	3	4	1	4	6.55E-06	4	1.20	040			
6069. 3206	1	4	3	1	2	1	3	5.35E-07	6	1.20	011	6300. 5809	-23	8	0	8	7	1	7	1.95E-06	5	0.74	040			
6072. 1205	11	65	10	2	8	1	0	1.23E-06	2	1.10	011	6301. 9497	-6	8	1	8	9	2	7	6.93E-07	10	2.33	120			
6073. 6287	-37	2	2	1	3	3	0	2.44E-06	3	1.13	040	6304. 026	-74	8	1	8	7	0	7	6.50E-06	10	0.81	040			
6074. 3150	8	6	3	7	2	6	2	7.50E-07	15	1.18	011	6309. 6204	53	7	1	6	7	0	7	1.47E-06	2	1.02	040			
6074. 5621	-56	2	2	0	3	3	1	9.80E-07	10	1.31	040	6315. 85965	-12	5	2	4	5	1	5	1.68E-06	4	1.17	040			
6075. 4256	0	3	1	3	4	0	4	6.48E-06	5	0.97	040	6316. 6761	18	2	2	1	1	0	1	3.33E-06	2	1.79	040			
6077. 28823	-18	6	2	5	7	1	6	6.03E-06	4	1.18	040	6316. 841	-430	7	0	7	8	4	4	2.91E-07	15		021			
6078. 2561	-4	1	0	1	2	1	2	6.34E-06	3	0.82	040	6317. 2165	-65	9	0	9	8	1	8	4.12E-06	3	0.71	040			
6087. 5070	11	9	2	10	73			3.50E-07	5	0.79	011	6319. 3573	-34	9	1	9	8	0	8	1.40E-06	4	0.72	040			
6087. 5280	11	9	3	10	74			1.05E-06	5	0.79	011	6322. 6450	7	2	2	0	1	1	1	1.15E-06	15	1.78</td				

Table 4. continued

observed position o-c	upper J	K <sub>B</sub>	K <sub>C</sub>	lower J	K <sub>B</sub>	K <sub>C</sub>	observed strength %	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band	observed position o-c	upper J	K <sub>B</sub>	K <sub>C</sub>	lower J	K <sub>B</sub>	K <sub>C</sub>	observed strength %	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band							
6368.315	<b>0</b>	<b>7</b>	<b>1</b>	<b>7</b>	8	2	6	<b>8.16E-07</b>	15	2.39	120	6493.	1494	0	9	4	5	10	5	6	<b>1.80E-06</b>	15	0.89	120		
6369.8347	-2	<b>6</b>	<b>3</b>	<b>3</b>	6	2	4	<b>7.00E-07</b>	4	1.11	040	6496.	49633	-2	5	1	5	6	2	4	6.35E-06	5	1.38	120		
6371.709	-24	10	5	6	11	7	5	<b>3.00E-07</b>	15		021	6496.	635	-22	7	3	4	8	5	3	6.00E-06	15	1.51	021		
6371.717	<b>41</b>	6	4	2	7	3	5	<b>5.00E-07</b>	15	1.71	040	6497.	0160	-80	6	1	6	7	3	5	<b>1.35E-05</b>	5	1.42	021		
6376.1325	81	4	3	2	5	0	5	<b>9.35E-07</b>	15	1.91	040	6499.	070	-91	5	3	2	5	0	5	1.60	E-0615	<b>1.67</b>	040		
6376.171	-126	5	3	3	6	0	6	<b>3.19E-07</b>	15		040	6501.	2395	0	9	5	4	10	6	5	<b>1.20E-06</b>	15	1.07	120		
6377.909	85	5	3	2	5	2	3	<b>4.05E-06</b>	2	1.31	040	6503.	5570	1	8	8	4	5	9	5	4	<b>4.96E-06</b>	10	1.01	120	
6378.0258	-72	8	2	7	8	1	8	<b>1.00E-06</b>	5	0.99	040	6503.	565	-46	6	3	4	7	5	3	<b>7.44E-06</b>	10	1.31	021		
6380.4085	-21	5	4	2	6	3	3	<b>6.42E-07</b>	15	2.33	040	6504.	4062	0	15	1	15	16	1	16	1.1	OE-06	2	0.80	021	
6381.2552	-1	6	0	6	7	4	3	<b>1.26E-06</b>	4	2.55	021	6505.	48483	2	6	2	5	7	3	4	<b>3.43E-05</b>	2	1.85	0.86	120	
6381.9792	4	6	3	4	7	0	7	<b>1.19E-06</b>	5	2.09	040	6507.	221	<b>7</b>	7	3	5	8	4	4	2	2.00E-06	10	0.49	120	
6382.0449	-10	6	2	5	5	1	4	<b>8.27E-07</b>	2	0.37	040	6509.	1W4	<b>17</b>	11	0	11	12	1	12	<b>8.65E-06</b>	3	0.78	120		
6385.3419	-46	9	2	<b>8</b>	10	4	7	<b>3.24E-06</b>	4	1.73	021	6510.	039	-307	8	4	4	9	5	5	<b>2.70E-06</b>	15	1.30	120		
6386.10472	20	4	3	1	4	2	2	1.93E-06	6	1.38	040	6511.	31566	4	5	4	2	6	6	1	8.93E-06	2	<b>1.66</b>	021		
6386.2129	27	8	1	8	9	3	7	<b>2.33E-06</b>	3	1.93	021	6511.	4687	61	5	4	1	6	6	0	<b>3.03E-06</b>	3	1.69	021		
6392.22268	35	3	3	0	3	2	1	5.71E-06	4	1.46	040	6512.	1767	11	8	1	7	8	5	4	<b>2.71E-07</b>	15		021		
6393.0150	22	5	4	1	6	3	4	2.00E-06	15	2.09	040	6513.	5072	-24	9	3	6	10	4	7	<b>4.27E-06</b>	3	1.10	120		
6394.44154	7	8	2	7	9	3	6	<b>2.49E-06</b>	2	3.43	120	6513.	9658	-15	6	3	3	7	5	2	2.95E-05	3	1.60	1.04	021	
6397.454	50	9	5	5	10	7	4	7.00E-07	15	2.77	021	6514.	7373	-31	6	2	5	7	4	4	<b>1.77E-05</b>	4	1.49	021		
6398.0158	-219	3	3	1	3	2	2	<b>2.00E-06</b>	10	1.41	040	6519.	01548	-23	8	2	6	9	4	5	<b>2.23E-05</b>	3	1.13	0.89021		
6398.038	-251	6	0	6	7	3	5	<b>7.23E-07</b>	15	0.67	120	6519.	291	-344	3	0	3	4	4	0	<b>2.41E-07</b>	15		021		
6400.2422	30	8	0	8	9	2	7	<b>7.45E-06</b>	2	2.07	021	6522.	9601	2	0	8	7	1	9	9	0	<b>5.70E-07</b>	5		101	
6401.1175	19	4	3	2	4	2	3	<b>7.33E-06</b>	3	1.46	040	6523.	17121	18	8	3	5	9	4	6	<b>3.54E-06</b>	2	1.01	120		
6405.198	172	10	4	6	11	6	5	<b>8.03E-07</b>	15	2.45	021	6524.	057	47	5	3	2	4	2	3	<b>4.40E-07</b>	5		040		
6406.6599	-1	7	5	3	3	5	2	4	2.1	OE-06	5	1.52	040	6524.	329	-427	9	2	7	9	5	4	<b>4.00E-07</b>	15	1.51	120
6406.9674	-28	9	4	6	10	6	5	<b>1.51E-06</b>	5	2.01	021	6524.	3863	45	8	3	6	7	7	1	<b>7.08E-07</b>	15		021		
6408.7105	-129	8	3	6	9	0	9	7.1	OE-07	8	040	6524.	8079	-13	8	5	4	9	6	3	5.50E-06	2	1.53	120		
6409.94766	-33	9	3	7	10	5	6	2.90E-06	3	1.79	021	6526.	8620	0	6	4	2	6	3	3	<b>6.87E-07</b>	15	1.21	040		
6411.12402	-37	4	4	<b>1</b>	5	3	2	<b>1.11E-06</b>	4	1.88	040	6527.	7331	12	3	0	3	4	3	2	<b>3.30E-06</b>	10	0.25	120		
6415.3110	-34	6	3	4	6	2	5	<b>3.50E-06</b>	3	1.25	040	6530.	08256	2	6	0	6	7	2	5	<b>6.47E-05</b>	3	1.63	1.03	021	
6417.9787	-963	8	6	2	9	8	1	<b>1.75E-06</b>	10		021	6530.	43251	6	5	3	3	6	5	2	<b>3.45E-05</b>	5	1.50	021		
6423.1465	-2	0	8	5	4	9	7	<b>0.01E-07</b>	8		021	6530.	8761	-10	<b>14</b>	0	14	15	0	15	<b>2.51E-06</b>	2	0.46	021		
6423.20791	28	8	5	3	9	7	2	<b>1.26E-06</b>	6	2.25	021	6531.	979	39	7	4	4	8	5	3	<b>5.05E-06</b>	2	0.94	120		
6425.3530	6	9	1	8	10	3	7	<b>1.80E-06</b>	8	2.11	021	6533.	1813	-11	<b>5</b>	<b>4</b>	<b>1</b>	5	3	2	<b>4.15E-06</b>	5	1.56	040		
6425.9150	0	7	3	5	7	2	6	5.00E-07	15	0.92	040	6534.	368	-20	5	3	2	6	5	1	9.60E-06	15	1.22	021		
6432.40543	-16	8	2	7	9	4	6	<b>3.18E-06</b>	3	1.58	021	6534.	377	-78	7	4	3	8	5	4	2	2.20E-05	15	1.25	120	
6433.88763	3	6	1	6	7	2	5	6.1	OE-06	6	1.65	120	6534.	51830	14	10	0	10	11	1	11	7.60E-06	3	0.76	120	
6434.186	-114	8	4	5	9	6	4	<b>1.20E-06</b>	8	2.02	021	6534.	92985	-8	10	1	10	11	0	11	<b>2.33E-05</b>	3	0.780	99	120	
6435.864	7	5	0	5	6	4	2	<b>6.30E-07</b>	10	1.93	021	6536.	0989	0	4	4	0	4	3	1	<b>1.55E-06</b>	3	1.73	040		
6440.6245	-21	8	4	4	9	6	3	<b>3.37E-06</b>	3	1.83	021	6536.	243	110	6	1	5	6	5	2	<b>3.03E-07</b>	15		021		
6442.40909	<b>1</b>	<b>10</b>	2	8	<b>11</b>	4	7	<b>2.62E-06</b>	15	2.12	021	6536.	94781	12	7	3	4	8	4	5	2.33E-05	4	0.85	120		
6443.0850	-19	7	1	7	8	3	6	<b>1.79E-05</b>	4	<b>1.66</b>	021	6537.	4197	8	4	4	1	4	3	2	<b>5.16E-06</b>	4	1.88	040		
6443.2802	23	8	3	6	8	2	7	<b>1.00E-06</b>	15	1.19	040	6537.	5837	17	7	1	6	8	3	5	<b>2.16E-05</b>	4	1.46	021		
6444.219	-17	8	3	6	9	5	5	<b>2.05E-06</b>	10	1.40	021	6537.	98955	7	5	4	2	5	3	3	1.80E-06	4	1.89	040		
6444.3650	75	7	6	2	8	8	8	<b>1.650E-07</b>	10		021	6539.	2733	-12	6	4	3	6	3	4	<b>4.20E-06</b>	10	2.06	040		
6447.080	403	4	1	3	5	4	2	<b>8.17E-07</b>	5	0.98	120	6541.	28866	5	6	3	4	7	4	3	<b>7.75E-05</b>	2	1.62	1.03	120	
6447.15155	-27	5	0	5	6	3	4	<b>4.30E-06</b>	2	0.57	120	6542.	19907	2	11	0	11	11	1	10	<b>8.63E-07</b>	4	0.85	120		
6448.69593	11	7	5	2	8	7	1	<b>5.52E-07</b>	4	1.69	021	6544.	3195	17	9	6	3	10	8	2	5	<b>0.01E-07</b>	15		101	
6448.9922	-6	7	5	3	8	7	2	<b>1.65E-06</b>	4	1.69	021	6544.	3580	37	9	6	4	10	8	3	<b>1.70E-06</b>	4	3.77	101		
6452.8534	12	7	2	6	8	3	5	<b>3.29E-06</b>	4	2.59	120	6544.	5213	-26	7	2	5	8	4	4	<b>1.41E-05</b>	3	0.92	1.09021		
6453.1425	9	10	3	7	11	5	6	9.50E-07	8	0.80	021	6545.	0119	-63	11	1	10	12	4	9	1	OE-06	15	1.21	200	
6460.1489	35	7	4	4	8	6	3	6.50E-06	4	1.87	021	6547.	1630	-11	5	1	5	6	3	4	<b>8.70E-05</b>	3	1.36	1.03	021	
6462.3336	-24	9	3	6	10	5	5	<b>2.12E-06</b>	7	2.01	021	6549.	7640	-1	8	5	2	4	6</td							

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band					
6563.1815	-35	8	<b>2</b>	6 9 3 7	<b>6.60E-06</b>	15	0.87	120	6609.203	-222	9	3	7	9	7	2	<b>1.33E-06</b>	15	101			
6563.253	-4	11	<b>2</b>	10 12 3 9	<b>3.50E-07</b>	15	0.83	200	6609. <b>841</b>	-51	11	1	<b>11</b>	12	1	12	<b>1.08E-04</b>	4	0.69			
6564.07705	11	6	<b>2</b>	<b>4</b> 7 4 3	<b>5.34E-05</b>	2	0.71	021	6609.855	-18	11	0	11	12	0	12	<b>3.60E-05</b>	4	0.70			
6565.965	-202	9	<b>1</b>	8 10 5 5	<b>3.37E-07</b>	15		101	6609.9617	-41	3	2	2	4	4	1	<b>9.05E-05</b>	2	1.51.			
6568.0888	-3	11	1	11 12 3 10	<b>6.00E-07</b>	10	0.85	101	6610.091	-655	9	0	9	9	5	4	<b>7.74E-07</b>	15	200			
6568.407	111	10	1	10 10 2 9	<b>1.30E-05</b>	15	3.97	120	6611.2320	-7	1	2	3	9	1	3	<b>2.30E-06</b>	10	0.88			
6568.623	535	10	0	10 10 1 9	<b>3.00E-06</b>	15	2.80	120	6611.7209	0	1	2	2	1	1	3	<b>6.00E-06</b>	10	1.12			
6570.8407	15	5	3	3 6 4 2	<b>6.48E-05</b>	7	1.490. 98	120	6612.0187	-15	4	4	1	5	5	0	<b>1.87E-04</b>	10	0.86			
6571.00255	33	7	2	5 8 3 6	<b>4.47E-05</b>	2	0.88	120	<b>6612.0341</b>	2	4	4	0	5	5	1	<b>8.33E-05</b>	10	1.14			
6571.1797	-83	8	2	6 9 6 3	<b>1.21E-06</b>	15		101	6615.4790	9	3	2	1	4	4	0	<b>4.05E-05</b>	6	1.91			
6571.9640	-32	9	1	8 10 2 9	<b>2.29E-05</b>	3	0.94	120	6616.4425	<b>4</b>	1	2	0	1	2	2	<b>3.37E-06</b>	3	1.56			
6573.143	-274	10	5	6 11 7 5	<b>4.29E-07</b>	15		101	6616.5137	<b>-16</b>	1	2	1	1	2	1	<b>1.12E-06</b>	10	2.43			
6575.588	53	8	6	2 9 8 1	<b>3.60E-06</b>	10	3.96	101	6617.09652	-13	6	1	5	7	2	6	<b>5.77E-05</b>	2	0.76			
6575.613	277	8	6	3 9 8 2	<b>1.17E-06</b>	5	3.87	101	6618.1753	-2	5	1	4	6	3	3	<b>1.02E-04</b>	2	0.97			
*6575.8535	0	7	6	1 8 7 2	<b>1.40E-06</b>	2	0.18	120	6618.27102	-6	8	1	8	8	2	7	<b>2.34E-05</b>	3	0.92			
6576.8191	-1	8	2	7 9 5 4	<b>1.55E-06</b>	6	1.04	200	6619.535	-661	1	2	4	8	1	3	<b>6.34E-07</b>	<b>10</b>	2.39			
6577.06379	5	5	3	2 6 4 3	<b>1.13E-04</b>	3	0.78	120	6620.12005	-53	7	2	6	8	1	7	<b>2.99E-05</b>	4	0.83			
6577.31618	-5	9	2	8 10 1 9	<b>8.03E-06</b>	4	1.03	120	6620.4607	-53	8	0	8	8	1	7	<b>8.50E-06</b>	5	1.04			
6578.87357	-29	6	5	2 7 6 1	<b>3.18E-05</b>	3	1.14	120	6621.5080	2	3	2	2	4	3	1	<b>1.40E-04</b>	3	0.80			
6578.9087	0	6	5	1 7 6 2	<b>1.03E-05</b>	5	1.10	120	<b>6621.556</b>	-15	6	1	6	7	5	3	<b>3.20E-06</b>	15	101			
6579.4958	-3	10	0	10 11 3 9	<b>9.00E-07</b>	5	1.01	200	<b>6621.</b>	83290	0	1	2	2	1	0	1	<b>4.93E-06</b>	3	0.85		
6580.0853	-7	10	5	5 11 7 4	<b>1.55E-06</b>	3	2.36	101	6624.2936	<b>-40</b>	1	1	3	8	1	2	<b>3.49E-06</b>	3	0.98			
6580.4554	-3	6	2	<b>4</b> 7 3 5	2.94E-05	5	0.86	120	6624.828	-330	3	0	3	3	3	0	<b>8.00E-07</b>	<b>15</b>	0.12			
6581.2075	-14	5	2	3 6 <b>4</b> 2	<b>8.45E-06</b>	8	0.27	021	6625.87458	<b>15</b>	8	3	6	9	2	7	<b>7.40E-06</b>	2	0.55			
6581.2585	-5	7	4	2 3 5 <b>4</b> 2	<b>3.90E-05</b>	5	1.53	021	6626.240	-88	1	0	4	7	1	1	<b>1.17E-06</b>	<b>15</b>	1.77			
6582.48395	-10	6	1	5 7 3 4	<b>1.65E-04</b>	2	1.16	021	6626.47751	7	3	3	1	4	4	0	<b>1.06E-04</b>	3	0.59			
6583.14163	10	8	0	8 9 1 9	<b>4.09E-05</b>	3	0.75	1.00	6626.52726	7	3	3	0	4	4	1	<b>3.50E-04</b>	3	0.65			
6583.2398	16	10	1	10 11 2 9	<b>2.82E-06</b>	3	0.97	200	6627.71585	-1	3	2	1	4	3	2	<b>5.42E-04</b>	3	0.90			
6583.526	-371	5	0	5 5 <b>4</b> 2	<b>5.82E-07</b>	15	1.79	021	6628.25572	4	6	0	6	7	1	7	<b>1.41E-04</b>	2	0.72			
6583.70293	3	8	1	8 9 0 9	<b>1.23E-04</b>	2	0.75	1.03	6628.5513	-24	7	2	6	8	5	3	<b>9.00E-07</b>	<b>15</b>	0.94			
6584.4586	2	12	1	12 13 1 13	<b>1.14E-05</b>	10	0.67	021	6628.69092	-19	5	1	4	6	2	5	<b>2.80E-04</b>	<b>3.0</b>	0.74			
6584.52355	0	12	0	12 13 0 13	3.25E-05	3	0.64	021	6630.05403	14	6	1	6	7	0	7	<b>4.13E-04</b>	<b>2</b>	<b>0.71</b>			
6585.8765	-19	5	4	2 6 5 <b>1</b>	<b>1.30E-05</b>	3	0.87	120	6630.284	-376	10	1	10	11	3	9	<b>1.34E-06</b>	15	<b>1.42</b>			
6586.0154	-22	5	<b>4</b>	1 6 5 <b>2</b> 9.1	<b>OE-05</b>	<b>3</b>	<b>0.870.95</b>	<b>120</b>	6631.8863	24	11	1	10	12	1	11	<b>1.23E-05</b>	4	0.71			
6587.313	-545	5	0	5	5 3 2	<b>4.38E-07</b>	15	0.067	120	6632.53908	7	11	2	10	12	2	11	<b>3.68E-05</b>	3	0.68		
<b>6588.692</b>	<b>-4</b>	<b>11</b>	<b>4</b>	<b>8</b>	<b>12</b>	<b>6</b>	<b>7</b>	<b>1.02E-06</b>	<b>10</b>	<b>1.77</b>	101	6633.4661	-2	7	8	5	4	9	7	<b>3.40E-06</b>	5	<b>2.64</b>
6589.0120	24	8	1	7 9 2 8	<b>1.60E-05</b>	2	0.83	120	6633.7896	0	12	4	9	13	4	10	<b>1.65E-06</b>	10	1.89			
6589.33405	-1	4	2	3 5 3 2	<b>2.37E-04</b>	2	1.03	1.04	6634.1197	-35	8	5	3	9	7	2	<b>1.03E-05</b>	2	2.66			
6589.7879	0	13	1	13 13 1 12	<b>1.02E-06</b>	7	2.76	021	6634.2086	-24	3	<b>1</b>	3	4	3	2	<b>3.80E-05</b>	4	0.26			
6590.52280	2	13	2	12 <b>14</b> 2	13	3.1	0.06	8	0.70	021	6634.4036	<b>-14</b>	<b>10</b>	<b>2</b>	<b>9</b>	<b>11</b>	<b>3</b>	<b>8</b>	<b>7.65E-06</b>	3	<b>1.41</b>	
6590.87066	-6	5	0	5 6 2 4	<b>5.87E-05</b>	3	1.39	1.08021	6634.5884	36	<b>10</b>	<b>0</b>	<b>10</b>	<b>11</b>	<b>0</b>	<b>11</b>	<b>2.93E-04</b>	5	0.68			
6592.7260	-11	5	2	3 6 3 4	<b>1.53E-04</b>	3	0.79	120	6634.6075	-21	10	<b>1</b>	10	11	1	11	<b>9.35E-05</b>	7	0.65			
6592.7536	-28	<b>4</b>	<b>1</b>	<b>4</b> 5 3 3	<b>5.33E-05</b>	4	1.41	021	6634.7230	0	10	2	9	10	3	8	<b>2.00E-06</b>	10	0.63			
6593.7529	59	9	1	9 9 2 8	<b>3.50E-06</b>	15	1.10	120	6636.8460	-13	11	2	9	12	2	10	<b>5.70E-06</b>	4	0.81			
6594.69803	-5	9	0	9 9 1 8	<b>9.30E-06</b>	4	1.00	120	6638.9145	15	10	3	7	11	3	8	<b>3.00E-05</b>	6	0.74			
6594.720	40	13	2	11 14 2 12	<b>2.76E-06</b>	15	5.71	021	6640.487	435	10	1	9	11	2	8	<b>1.66E-06</b>	6	<b>1.80</b>			
6595.0782	-6	6	4	2 2 5 4	<b>1.26E-04</b>	4	2.86	021	6640.54649	58	8	1	7	8	6	2	<b>3.91E-07</b>	15	200			
6595.282	-265	11	2	10 12 4 9	<b>6.58E-07</b>	15	0.62	101	6640.90968	-4	<b>4</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>1.33E-04</b>	2	0.72			
<b>6597.5905</b>	0	9	3	7 10 2 8	<b>5.30E-07</b>	15	0.25	120	6641.2665	-10	9	0	9	10	3	8	<b>1.06E-05</b>	3	1.23			
6597.8752	0	13	3	11 14 3 12	<b>2.00E-06</b>	<b>10</b>	1.32	021	<b>6641.5150</b>	2	8	2	7	8	4	4	<b>2.32E-06</b>	4	1.23			
6597.928	139	12	4	8 13 4 9	<b>5.00E-07</b>	5	0.32	021	6641.61850	-3	7	1	7	2	6	<b>1.73E-05</b>	2	0.83				
6598.2811	5	8	2	7 9 1 8	4.59E-05	4	0.86	120	6642.5644	79	11	0	11	11	2	10	<b>4.20E-06</b>	15	1.74			
6601.3298	71	4	3	1 5 4 2	<b>6.80E-05</b>	3	0.69	120	6642.8415	17	11	1	11	11	1	10	<b>9.52E-06</b>	5	2.00			
6601.4057	<b>13</b>	4	3	2 5 4 1	<b>7.12E-05</b>	7	0.25	120	6643.0654	-47	9	2	7	10	5	6	<b>6.98E-06</b>	3	2.20			
6602.7194	-16	10	2	8 11 <b>5</b> 7	<b>7.20E-07</b>	15	1.45	200	6643.62734	-5	6	2	5	7	1	6	<b>1.40E-04</b>	3	0.76			
6603.5645	-51	9	5	5 10 7 4	<b>4.40E-06</b>	5	2.54	101	6644.81305	17	11	3	9	12	3	10	<b>1.55E-05</b>	3	0.71			
6603.6766	1	10	1	9 11 4 8	<b>1.82E-06</b>	6	1.68	200	6644.873	478	7	5	3	7	7	0	<b>2.57E-07</b>	15	021			
6603.810	-7	7	4	0 4 4 4	<b>4.00E-07</b>	15	0.77	021	<b>6645.66629</b>	10	4	0	1	3	5	3	<b>4.25E-04</b>	4	1.16			
*6604.36058	-34	7	1																			

Table 4. continued

observed position o-c	upper J K <sub>a</sub> K <sub>c</sub>	lower J K <sub>a</sub> K <sub>c</sub>	observed strength %	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J K <sub>a</sub> K <sub>c</sub>	lower J K <sub>a</sub> K <sub>c</sub>	observed strength %	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band
6652. 96280 -19	10 2 9 11 2 10	3.75E-05	4 0.69	021			6688. 821 520	12 8 4	12 10 3	8.50E-07	5		101
6653. 713 361	10 2 9 11 4 8	7.50E-07	4 0.51	101			6689. 21587 1	1 1 0	2 2 1	7.17E-04	2 0.61		120
6653. 7911 39	8 4 5 8 6 2	8.00E-07	15 1.69	021			6690. 1155 -44	6 3 4	7 2 5	1.17E-06	5 0.032		120
6654. 1032 11	9 2 8 9 3 7	3.27E-06	5 0.96	120			6690. 839 -166	7 0 7	6 4 2	1.09E-06	15		021
6654. 47112 1	3 1 2 4 2 3	5.33E-04	3 0.71 0.99	120			6691. 3055 0	12 1 11	12 3 10	2.01E-06	3 1.17		021
6655. 5654 -10	7 4 4 7 6 1	2.60E-06	4 1.44	021			6691. 6493 15	3 0 3	4 2 2	2.66E-04	4 0.98		021
6656. 0850 19	7 3 5 8 2 6	1.65E-06	10 0.21	120			6691. 8801 13	9 1 9	10 3 8	2.17E-05	4 2.09		101
6656. 5597 -44	10 3 8 11 5 7	1.24E-06	5 0.93	101			6692. 2027 0	10 6 4	11 7 5	1.35E-06	5 1.41		200
6656. 9087 26	6 4 3 6 6 0	6.70E-07	15 1.49	021			6692. 565 -297	10 1 10	10 4 7	5.45E-07	15 1.42		200
6657. 367 -36	7 5 2 8 8 1	3.30E-07	10	002			6692. 7987 2	9 0 9	9 2 8	2.23E-05	4 1.08		021
6657. 65438 -9	6 4 2 6 6 1	2.06E-06	3 1.52	021			6692. 9055 38	8 2 7	9 2 8	2.83E-04	10 0.76		021
<b>6657. 7702 -45</b>	11 4 8 12 4 9	<b>7.46E-06</b>	4 0.73	021			6692. 9460 1	8 4 5	9 6 4	<b>8.73E-06</b>	15 1.92		101
<b>6658. 068 130</b>	7 4 3 7 6 2	1.10E-06	10 1.82	021			6693. 140 -353	6 5 2	7 7 1	8.18E-06	4 3.06		101
<b>6658. 38095 -12</b>	9 1 9 10 1 10	<b>7.30E-04</b>	10 0.67	021			6693. 161 -108	6 5 1	7 7 0	2.45E-05	4 3.07		101
6658. 65177 0	9 0 9 10 0 10	2.47E-04	3 0.69	1.07021			6693. 38544 0	7 2 5	8 2 6	4.18E-04	3 0.81 1.04		021
6659. 5234 -50	9 1 8 10 4 7	1.46E-05	3 1.45	200			6693. 85148 5	9 1 9	9 1 8	6.35E-05	4 1.47		021
6660. 1184 -4	10 1 10 9 2 7	1.25E-06	15	120			6693. 885 -271	12 2 11	12 2 10	3.00E-06	15 8.58		021
6660. 3961 -20	8 4 4 8 6 3	2.20E-06	10 1.50	021			6694. 1705 14	10 3 8	11 4 7	1.59E-05	2 1.81		200
6660. 7548 12	9 4 6 10 6 5	1.13E-05	3 1.99	101			6695. 9990 -1	10 3 8	11 6 5	2.45E-06	2		002
6663. 2862 -3	7 5 3 8 7 2	2.00E-05	8 2.94	101			6696. 0622 71	12 1 12	11 3 9	2.05E-06	15		021
6663. 38590 -17	6 1 6 6 2 5	1.08E-04	3 0.77	120			6696. 1477 -8	5 2 4	5 4 1	4.37E-05	3 1.16 1.02		021
6663. 4171 26	7 5 2 8 7 1	6.50E-06	10 2.87	101			6696. 67317 12	5 0 5	5 1 4	2.63E-04	3 0.91 0.96		120
6663. 5487 -7	10 3 8 11 3 9	1.80E-05	4 0.75	021			6697. 6175 0	10 5 5	11 5 6	<b>8.70E-06</b>	7 0.52		021
6663. 62249 -8	9 2 7 10 2 8	5.50E-05	4 0.77	021			6697. 93502 -5	8 4 5	9 3 6	6.83E-05	3 29.06		120
6663. 6770 13	9 1 8 9 2 7	1.68E-05	15 1.91	120			6698. 24070 -1	3 1 3 4 0 4	<b>3.13E-04</b>	2 0.66 1.05			120
6666. 097 0	11 5 6 12 5 7	4.50E-07	10 0.30	021			6698. 68860 -6	4 2 3	5 1 4	1.84E-04	3 0.61		120
6667. 1127 -43	7 2 6 7 4 3	1.79E-05	5 1.10	021			6698. 86285 10	6 2 5	6 3 4	1.08E-04	2 0.64		120
6667. 64831 3	3 1 2 4 3 1	9.53E-05	3 0.77	021			6699. 886 -99	9 0 9	10 2 8	7.00E-06	15 2.06		101
6667. 95020 -3	4 0 4 5 1 5	2.99E-04	3 0.690 0.99	120			6700. 08902 11	4 1 4	4 2 3	<b>3.03E-04</b>	2 0.64		120
6668. 06400 0	10 0 10 10 2 9	2.80E-05	5 1.26	021			6700. 6045 -17	9 4 6	10 4 7	6.22E-05	2 0.56		021
6668. 7074 20	10 1 10 10 1 9	9.20E-06	3 1.85	021			<b>6700. 8499 -49</b>	6 1 6 7 4 3	<b>6.12E-06</b>	4 0.86			200
6669. 69510 -17	5 2 4 6 1 5	6.15E-05	3 0.70 0.99	120			6701. 0744 11	9 3 7	10 5 6	1.36E-06	4 1.02		101
6669. 8691 -37	2 1 2 3 3 1	2.35E-05	4 0.60	021			6701. 491 -25	8 0 8	9 3 7	8.00E-06	15 0.95		200
6670. 350 48	7 3 5 7 5 2	1.03E-05	5 1.26	021			6701. 725 0	10 2 8	10 3 7	<b>6.97E-07</b>	15 0.82		120
6670. 4590 -2	2 1 1 3 2 2	2.13E-04	4 0.67	120			6701. 95669 -2	2 0 2 3 1 3	3.44E-04	3 0.63 1.03			120
6670. 4846 29	9 1 8 10 1 9	1.07E-04	4 0.74	021			6702. 38924 9	7 3 4	8 3 5	<b>2.63E-04</b>	3 0.70		021
6671. 24465 -3	8 2 ? 8 3 6	2.50E-05	2 0.83 1.00	120			6702. 498 -407	7 2 5	8 5 4	1.56E-05	15 2.55		200
6671. 5520 1	13 2 12 13 2 11	8.60E-07	15 3.34	021			6702. 9687 -4	8 3 6	9 3 7	1.41E-04	8 0.74		021
6671. 82895 -12	6 0 6 6 1 5	4.17E-05	2 0.94 1.03	120			6703. 239 -30	4 2 3	4 4 0	9.00E-06	10 1.09		<b>021</b>
6673. 04455 12	9 2 8 10 2 9	3.30E-04	4 0.74	021			6703. 256 -6	5 8 3 5	8 5 4	<b>6.00E-06</b>	10 0.76		021
6673. 4670 -61	6 2 5 7 5 2	3.95E-06	4 0.98	200			6703. 4366 -19	9 4 5	10 7 4	5.33E-06	8		002
6674. 0745 8	7 1 6 8 5 3	2.81E-06	3 3.55	101			6703. 4690 -36	8 4 4	9 6 3	<b>3.03E-05</b>	3 2.16		101
6674. 270 42	10 4 6 10 6 5	8.00E-07	15 1.70	021			6703. 6815 -6	9 2 8	10 3 7	<b>8.80E-06</b>	5 1.23		200
6674. 5786 -87	6 3 4 6 5 1	4.44E-06	4 1.39	021			6704. 55723 2	7 0 7	8 0 8	<b>1.17E-03</b>	3 0.70 0.95		021
6675. 10323 -6	<b>4 1 4</b> 5 0 5	8.57E-04	2 0.69	120			6704. 8509 7	7 1 6	8 1 7	<b>6.30E-04</b>	4 0.77		021
6675. 50425 0	8 3 5 9 3 6	2.69E-04	2 0.63 0.95	021			6705. 03862 13	7 1 7	8 1 8	<b>3.52E-03</b>	3 0.69		021
6675. 8519 -16	8 2 6 9 5 5	3.50E-06	10 2.09	200			6705. 0863 -112	8 3 6	8 4 5	2.12E-05	10 0.81		120
6676. 0733 -43	5 1 5 6 5 2 1	E-0 6 5		101			6707. 24823 5	7 1 6 7 2 5	<b>9.40E-05</b>	3 1.10 1.00			120
6676. 95488 -3	5 3 3 5 5 0	8.20E-06	6 1.27	021			6707. 7371 -26	10 5 6 11 5 7	4.69E-06	3 0.79			021
6677. 0105 0	11 2 9 12 4 8	6.00E-07	15 0.93	101			6708. 6330 11	5 2 4 5 3 3	<b>5.60E-05</b>	3 0.55			120
<b>6677. 32956 -4</b>	8 2 6 9 2 7	4.77E-04	2 0.79 1.04	021			6710. 2915 -17	9 2 8 10 4 7	<b>3.22E-05</b>	2 1.93			101
6678. 47517 0	10 4 7 11 4 8	3.50E-06	15 0.29	021			6710. 3780 3	8 4 5 9 7 2 1	E-0 6 7				002
6680. 42109 -9	9 4 5 10 4 6	2.15E-05	3 0.67	021			6710. 767 31	6 0 6 5 3 3	<b>6.70E-07</b>	15 1.36			120
6680. 9277 -14	5 3 2 5 5 1	2.30E-06	10 1.04	021			6711. 2522 -37	7 3 5 7 4 4	1.31E-05	5 0.64			120
6680. 9983 0	11 5 7 12 6 6	9.85E-06	3 21.36	200			6711. 3027 -64	8 1 7 9 4 6	<b>1.14E-05</b>	10 1.34			200
6681. 99519 15	8 0 8 9 0 9	1.73E-03	4 0.71	021			6711. 3324 -6	8 7 2 9 8 1	<b>2.95E-05</b>	2 1.31			200
6682. 14650 -45	1 1 1 2 2 0	2.16E-04	3 0.69	120			6711. 4332 -49	11 1 10 11 3 9	<b>2.60E-06</b>	15 1.26			021
6482. 23393 3	8 1 8 9 1 9	5.70E-04	3 0.69	021			6711. 77243 5	8 4 4 9 4 5	2.1 0E-04	4 0.75			021
6682. 53877 21	9 3 7 10 3 8	1.39E-04	2 0.65 1.02	021			6711. 984 -274	8 1 8 8 5 3	<b>5.00E-06</b>	15			101
6682. 7718 -12	9 4 5 10 6 4	3.95E-06	3 1.91	101			6712. 056 -249	9 3 6 9 5 5	<b>2.02E-06</b>	4 1.16			021
6683. 0237 7	11 5 7 12 5 8	3.88E-06	5 0.77	021			6712. 680 351	5 2 4 6 5 1	<b>2.56E-06</b>	15 1.98			200
6683. 06082 -27	5 1 5 5 2 4	6.27E-05	2 0.68 0.88	120			6712. 7500 -6	7 2 6 8 2 7	<b>1.82E-03</b>	2 0.73			021
6683. 6776 -88	10 1 9 11 3 8	4.76E-06	3 0.90	101			6712. 877 -254	4 1 4 4 3 1	<b>1.97E-05</b>	15 0.81			021
6683. 7723 12	7 0 7 8 4 4	1.66E-06	3 2.43	101			6712. 90426 -1	6 2 4 7 2 5	<b>2.85E-03</b>	3 0.81			021
6684. 7012 -13	6 2 5 6 4 2	9.23E-06	3 0.90	021			<b>6713. 99202 -1</b>	3 1 3 3 2 2	<b>1.18E-04</b>	2 0.55			120
6685. 2024 -29	6 3 3 6 5 2	1.30E-05	<b>3 1.25</b>	021			6714. 2007 -69	7 1 6 8 6 3	<b>5.18E-06</b>	3			002
6685. 41159 9	<b>3 0 3 4 1 4</b>	1.06E-03	3 0.670 0.99	120			6715. 1612 -6 8 6 1 5	7 5 2	<b>1.13E-05</b>	4 3.80			101
6686. 317 33	<b>7 2 6 7 3 5</b>	2.40E-05	15 0.93	120			6715. 62920 -9 4 2 3	4 3 2 2.1 0E-04	3 0.490 0.96	120			120
6686. 487 150	<b>8 1 7 8 2 6</b>	1.20E-05	15 1.32	120			6715. 7150 12 10 5 6						

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band
6716. 56311	-11	8	0	8	8	2	7	1.58E-04	3	1.01	021	6742. 4093	<b>12</b>	8	6	2	9	7	3	<b>1.73E-05</b>	4	1.46	200		
6716. 6263	55	11	2	10	1	1	2	<b>6.85E-06</b>	3	1.75	021	6742. 48118	20	7	4	3	8	4	4	<b>1.60E-04</b>	4	0.69	021		
6717. 3116	- 1	6	4	2	2	4	4	1	6.50E-05	8	2.17	021	6742. 67703	-5	3	1	2	3	2	1	6.99E-04	3	0.53	120	
6718. 50593	-40	5	3	3	5	4	2	<b>3.31E-05</b>	7	0.59	120	6743. 767	65	1	2	2	1	0	1	<b>1.00E-06</b>	15	0.92	021		
6718. 71166	<b>14</b>	9	2	7	9	3	6	<b>1.35E-05</b>	2	1.16	120	6743. 9442	26	1	0	0	1	0	4	<b>1.38E-06</b>	7	101			
6719. 02261	1	1	0	1	2	1	2	<b>9.17E-04</b>	2	0.61	120	6744. 0475	-31	5	2	3	6	5	2	<b>4.27E-06</b>	4	0.95	200		
6719. 07878	10	4	0	4	4	1	3	<b>1.65E-04</b>	4	0.81	120	6744. 0746	-30	1	0	6	4	1	1	<b>8.70E-06</b>	5	1.08	021		
6719. 233	5	2	1	1	6	6	1	<b>2.30E-06</b>	15		021	6744. 2050	0	9	5	5	9	6	4	<b>8.70E-07</b>	<b>15</b>	0.97	120		
6719. 55370	10	8	1	8	8	1	7	5.33E-05	2	1.41	021	6744. 264	-103	7	4	3	8	7	2	<b>2.52E-06</b>	3		002		
6720. 13104	- 9	3	2	2	3	3	1	<b>5.90E-05</b>	2	0.45	0.98	120	6744. 5796	-2	8	5	4	8	6	3	<b>1.26E-06</b>	5	0.21	120	
6720. 62670	7	6	1	5	7	1	6	<b>3.84E-03</b>	2	0.76	021	6744. 98716	4	7	1	7	7	1	6	<b>3.57E-04</b>	4	1.31	021		
6720. 8480	-53	<b>10</b>	4	7	1	1	5	6	2.40E-05	4	2.57	200	6745. 1944	0	1	0	6	5	1	1	<b>3.20E-06</b>	4	1.18	021	
6722. 61246	10	2	1	2	3	0	3	<b>8.00E-04</b>	2	0.64	120	6745. 498	394	10	1	10	9	3	7	<b>8.90E-07</b>	5		021		
6723. 30896	-36	4	3	1	4	4	0	<b>2.25E-05</b>	10	0.40	<b>120</b>	6746. 51788	0	6	3	4	7	3	5	6.74E-04	3	0.72	0.92	021	
6723. 44720	-14	5	3	2	5	4	1	<b>5.53E-05</b>	3	0.30	120	6746. 8109	<b>-14</b>	9	5	4	1	0	6	<b>4.48E-05</b>	2	2.44	200		
6723. 6387	-37	4	3	2	4	4	1	<b>1.90E-05</b>	8	0.12	120	6746. 94756	-9	5	0	5	6	0	6	<b>3.72E-03</b>	<b>2</b>	0.72	021		
6723. 7914	-11	7	4	4	8	6	3	<b>5.80E-05</b>	<b>7</b>	<b>2.17</b>	101	6747. 271	-17	9	1	8	9	3	7	<b>1.60E-05</b>	8	0.83	021		
6723. 9315	11	6	1	5	6	2	4	7.40E-05	3	0.89	120	6747. 277	<b>-5</b>	4	2	3	5	5	0	<b>1.90E-06</b>	8	0.91	200		
6724. 0690	- 6	7	3	5	8	3	6	<b>9.75E-04</b>	2	0.72	021	6747. 5844	<b>-21</b>	7	5	3	7	6	2	<b>9.00E-07</b>	10	0.25	120		
6724. 3830	-17	6	2	4	7	5	3	<b>2.80E-06</b>	8	<b>1.41</b>	200	6747. 7360	-56	7	5	2	7	6	1	<b>2.70E-06</b>	4	0.25	120		
6724. 4725	<b>11</b>	2	1	2	2	2	1	<b>3.18E-04</b>	5	0.52	120	6748. 22038	34	<b>1</b>	<b>1</b>	<b>1</b>	2	0	2	<b>1.44E-04</b>	3	0.60	0.95	120	
6724. 5477	- 3	8	4	5	9	4	6	<b>7.21E-05</b>	2	0.71	0.91	120	6748. 3405	1	8	5	1	4	6	5	<b>5.00E-05</b>	15	0.74	101	
6724. 8140	<b>-18</b>	<b>3</b>	<b>2</b>	<b>1</b>	3	3	0	<b>2.16E-04</b>	2	0.	500.96	120	6748. 5529	-30	7	2	5	7	4	4	<b>1.20E-05</b>	15	0.50	021	
6725. 09522	6	6	3	3	6	4	2	<b>1.59E-05</b>	3	0.34	120	6748. 88962	13	5	1	5	6	1	6	<b>1.13E-02</b>	3	0.73	021		
6725. 6866	-87	8	4	5	8	5	4	<b>2.50E-06</b>	15	0.17	120	6749. 051	-51	7	4	4	8	4	5	<b>5.50E-04</b>	10	0.76	021		
6725. 8475	16	5	3	3	6	2	4	9.99E-05	6	6.11	0.97	120	6749. 059	-26	2	0	2	2	1	1	<b>3.00E-04</b>	10	0.52	120	
6726. 24885	2	6	0	6	7	0	7	<b>6.71E-03</b>	3	0.72	021	<b>6749. 3869</b>	-105	9	3	7	10	6	<b>4</b>	<b>5.70E-06</b>	15		002		
6727. 1688	-49	7	4	3	8	6	2	<b>1.83E-05</b>	6	2.04	101	6749. 6891	-21	6	0	6	7	4	3	<b>1.48E-05</b>	4	2.26	101		
6727. 23202	5	6	1	6	7	<b>1</b>	7	<b>2.23E-03</b>	2	0.71	021	6750. 0102	-24	6	5	2	6	6	1	2.68E-06	3	0.21	120		
6728. 0554	- 2	2	9	5	4	1	0	<b>5.09E-05</b>	4	0.60	021	6750. 04047	34	6	5	1	6	6	0	<b>8.93E-07</b>	3	0.21	120		
6728. 2435	<b>-1</b>	7	4	4	7	5	3	2.60E-06	10	0.26	120	6751. 1091	-49	6	4	3	7	6	2	<b>2.68E-05</b>	6	1.96	101		
6728. 4190	- 9	7	3	4	7	4	3	<b>4.60E-05</b>	10	0.54	120	6751. 6668	-20	8	1	8	9	3	7	<b>1.15E-05</b>	4	1.00	101		
6728. 7969	- 2	7	4	2	2	4	3	<b>7.00E-05</b>	3	0.38	120	6752. 5229	-11	9	1	8	1	0	3	<b>5.18E-06</b>	3	0.65	101		
6728. 871	- 2	4	2	5	2	3	5	8.25E-06	5	0.41	021	6752. 9790	36	9	3	7	10	<b>4</b>	6	<b>1.89E-05</b>	6	1.53	200		
6729. 00665	4	2	0	2	3	2	1	<b>8.45E-04</b>	2	0.80	021	6753. 4798	-12	6	<b>4</b>	2	7	6	1	<b>1.09E-04</b>	S	2.65	101		
6729. 1114	2	8	4	4	8	5	3	<b>2.37E-06</b>	15	0.41	120	6753. 57765	2	5	2	4	6	2	5	<b>6.65E-03</b>	3	0.76	021		
6729. 2558	2	8	8	2	6	8	3	<b>1.30E-05</b>	5	0.85	120	6755. 02083	4	4	1	3	5	1	4	<b>1.30E-02</b>	5	0.84	021		
6729. 70895	-10	7	<b>4</b>	3	7	5	2	<b>9.80E-06</b>	3	0.30	120	6756. 14722	0	1	0	1	1	1	0	<b>9.50E-04</b>	2	0.57	<b>120</b>		
6729. 85351	5	3	2	2	4	1	3	<b>4.32E-05</b>	3	0.48	120	6756. 3719	-51	6	1	5	7	6	2	<b>7.70E-06</b>	15		002		
6730. 3379	8	1	0	1	9	1	0	<b>1.92E-05</b>	4	0.96	021	6756. 4981	-1	2	8	5	3	9	5	<b>9.80E-05</b>	4	0.66	021		
6730. 5259	- 5	9	6	4	3	6	5	<b>1.28E-05</b>	3	0.26	120	6756. 54266	7	8	2	6	8	4	5	<b>3.17E-05</b>	<b>5</b>	0.61	021		
6730. 9775	<b>241</b>	6	4	2	6	5	1	<b>6.00E-06</b>	4	0.36	120	6757. 0457	0	7	0	7	8	5	4	<b>1.00E-06</b>	4		002		
6731. 30695	-21	3	1	3	3	3	0	<b>9.50E-06</b>	10	0.16	021	6757. 7618	<b>49</b>	9	3	5	6	10	5	<b>2.70E-05</b>	4	3.10	101		
6731. 44496	<b>12</b>	6	3	3	7	3	4	<b>1.82E-03</b>	3	0.72	021	6757. 7954	-9	<b>7</b>	<b>1</b>	<b>6</b>	8	4	5	<b>1.12E-04</b>	2	2.24	200		
6732. 2802	-22	8	3	5	<b>8</b>	4	4	<b>7.03E-06</b>	4	0.50	120	6758. 132	-	9	2	5	1	5	6	<b>3.81E-06</b>	2	0.97	200		
6732. 435	-133	<b>5</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>5.00E-06</b>	10	0.29	120	6758. 7495	2	6	8	5	4	9	5	<b>4.31E-05</b>	4	0.87	021		
6732. 5368	-128	<b>5</b>	<b>4</b>	<b>1</b>	5	5	0	<b>2.12E-05</b>	7	0.69	021	6758. 90889	2	4	2	2	5	2	3	<b>6.18E-03</b>	3	0.53	021		
6732. 8736	2	2	6	2	5	7	2	<b>1.14E-03</b>	2	0.69	021	6758. 9841	1	7	1	0	1	2	2	<b>1.46E-04</b>	5	0.73	021		
6732. 894	126	5	2	3	5	3	2	<b>1.85E-04</b>	10	0.39	120	6759. 58096	-5	6	0	6	6	2	5	<b>6.28E-04</b>	3	0.86	0.96021		
6733. 0798	-14	9	5	5	1	0	5	<b>4.57E-05</b>	2	0.82	021	6759. 8580	-12	7	0	7	8	3	6	<b>0.01E-04</b>	4	1.56	200		
6733. 420	1	1	0	1	0	3	7	<b>2.50E-06</b>	15	0.87	021	6760. 0728	-16	10	2	8	10	4	7	<b>7.70E-06</b>	6	0.66	021		
6733. 6824	- 3	7	1	1	1	1	0	<b>5.43E-07</b>	15		101	6760. 704	-219	9	2	7	9	4	6	<b>6.50E-06</b>	8				

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band		
<b>6771.19765</b>	29	8	2	7	9	3	6	<b>1.07E-04</b>	2	1.	35	200	6806.0337	420	16	1	15	17	1	16	<b>4.50E-07</b>	10	0.51		101		
6771.47533	3	6	4	2	7	4	3	1.05E-03	3	0.73	0.	96021	6806.1653	-46	5	0	5	6	4	2	<b>1.73E-05</b>	4	<b>3.99</b>		101		
6771.7100	-7	7	6	2	8	7	1	5.05E-05	3	1.46		200	6806.26131	-	3	2	0	2	2	2	<b>5.04E-04</b>	3	0.61	0.	98021		
6771.7477	40	7	6	1	8	7	2	<b>1.47E-04</b>	4	1.42		200	6806.4241	-	1	9	8	4	5	4	<b>1.09E-04</b>	4	1.02		200		
6771.96143	1	4	1	3	4	3	2	<b>2.27E-04</b>	2	0.59	0.	98021	6806.66970	5	2	1	1	2	0	2	<b>3.83E-04</b>	4	0.57		120		
6772.867	-363	5	0	5	5	5	0	<b>1.28E-06</b>	15			200	6807.09810	3	2	0	2	1	1	1	<b>1.23E-04</b>	3	0.44		120		
6773.1208	14	8	5	4	9	6	3	<b>1.02E-04</b>	7	1.	55	0.	93	200	6807.5010	-54	4	1	4	5	4	1	<b>1.19E-05</b>	4	0.95		200
<b>6773.26727</b>	6	6	3	3	7	2	6	<b>4.82E-05</b>	3	9.08		120	6807.8313	-430	17	1	17	18	1	18	<b>1.11E-06</b>	5	1.32		101		
6774.05585	-17	7	3	4	8	2	7	<b>5.32E-05</b>	5	9.25		120	6808.062	-	5	6	9	7	2	1	<b>3.56E-06</b>	3	1.20		021		
6774.22297	4	6	4	3	7	4	4	<b>3.52E-04</b>	2	0.72		021	6808.0840	-	7	9	7	3	1	0	<b>1.07E-05</b>	3	1.19		021		
6775.16483	1	4	2	3	5	2	4	3.20E-03	3	0.73		021	6808.9729	-24	6	5	2	7	5	3	<b>9.31E-06</b>	9	0.046		021		
6775.3362	-25	8	5	3	9	6	4	<b>3.61E-05</b>	10	1.70		200	6809.28188	-6	8	3	6	9	4	5	<b>2.33E-04</b>	6	1.73	0.	96	200	
6775.75589	-20	5	1	4	5	3	3	<b>1.00E-04</b>	6	0.57		021	6809.51852	-5	6	5	1	7	5	2	<b>4.23E-04</b>	4	0.70		021		
6775.8620	1	6	1	5	6	3	4	<b>2.94E-04</b>	4	0.63		021	6809.5439	-25	7	1	7	8	3	6	<b>9.90E-05</b>	4	0.94		101		
6775.99380	4	3	1	2	4	1	3	6.10E-03	3	0.83		021	6809.7430	2	6	1	6	5	3	3	<b>1.37E-06</b>	10	0.25		021		
6776.4379	6	10	4	6	11	5	7	6.75E-06	4	4.73		200	6810.2134	6	7	2	6	8	4	5	<b>1.72E-04</b>	6	1.16		101		
6776.76872	8	6	4	3	7	3	4	<b>9.75E-05</b>	3	11.43	0.	97	6810.6705	-10	6	2	4	7	1	7	<b>1.06E-05</b>	3	6.55		120		
6777.43546	0	5	0	5	5	2	4	<b>3.29E-04</b>	3	0.78		021	6810.81150	-	7	6	3	4	7	5	<b>2.40E-04</b>	6	4.96		101		
6777.4784	-15	7	3	5	8	5	4	<b>7.58E-05</b>	3	0.93		101	6811.501	-	1	6	9	4	1	4	<b>1.60E-06</b>	15	0.33		021		
6778.1836	57	10	1	9	10	5	5	<b>1.80E-06</b>	3	4.81		101	6812.728	3	9	4	2	3	3	3	<b>8.40E-06</b>	15	0.18		120		
6779.029	98	9	4	6	10	5	5	2.10E-06	10	0.19		200	6812.81040	2	2	1	2	3	1	3	<b>7.65E-03</b>	2	0.76		021		
6780.7613	-12	5	4	2	6	6	1	<b>1.05E-04</b>	3	2.49		101	6812.9606	9	5	4	2	6	3	3	<b>3.60E-05</b>	6	8.75		120		
6780.87727	8	5	3	2	6	2	5	<b>3.33E-04</b>	2	9.95	0.	84	6813.4095	0	1	4	3	1	1	5	<b>9.46E-07</b>	15	0.64		101		
6781.2460	-8	5	4	1	6	6	0	<b>3.62E-05</b>	4	2.58		101	6813.6248	-17	5	1	5	4	3	2	<b>5.95E-06</b>	3	0.28		021		
6782.5618	5	1	0	7	3	1	7	<b>4.66E-06</b>	15			021	<b>6814.2727</b>	2	3	3	0	4	2	3	<b>4.09E-04</b>	3	10.44	0.	90	120	
6782.6394	20	10	7	4	11	7	5	<b>1.40E-06</b>	4			021	<b>6815.0116</b>	-3	6	0	6	7	3	5	<b>6.71E-05</b>	3	1.40	<b>1.00</b>	200		
6783.2325	-14	7	1	7	8	2	6	<b>4.00E-05</b>	3	1.23	1.	07200	6815.6918	13	9	1	8	9	5	5	<b>1.58E-06</b>	15	4.28		101		
6783.42857	-2	7	4	3	8	3	6	5.06E-05	3	8.57		120	6815.94062	16	7	2	6	7	2	5	<b>3.88E-04</b>	3	1.090	.95	021		
6783.4754	40	7	5	2	8	5	3	<b>7.95E-05</b>	3	0.71		021	6816.39310	1	2	2	0	3	2	1	<b>1.07E-02</b>	2	0.77		021		
6783.6704	-16	8	3	5	9	2	8	<b>5.40E-06</b>	3	9.27		120	6816.5660	48	8	4	4	9	5	5	6.90E-05	4	2.51		200		
6784.1292	-3	7	3	1	3	2	2	<b>6.40E-06</b>	6	0.29		120	6818.07183	5	3	1	2	3	0	3	<b>8.83E-04</b>	2	0.54		120		
6784.23346	<b>15</b>	8	3	5	9	5	4	<b>1.67E-04</b>	7	3.02		101	6818.11022	1	3	3	0	4	3	1	<b>1.70E-03</b>	2	0.75		021		
6784.51566	-7	7	5	3	8	5	4	<b>3.43E-04</b>	3	1.02	1.	09	6818.31096	11	1	1	1	0	0	0	<b>2.45E-04</b>	5	0.58		120		
6785.1919	26	8	3	6	9	6	3	<b>5.00E-07</b>	15			002	6818.86945	-6	8	1	7	9	3	6	<b>5.47E-05</b>	2	0.52		101		
6785.3759	-6	3	0	3	4	0	4	<b>7.70E-03</b>	6	0.78		021	6819.27607	-22	<b>3</b>	<b>3</b>	<b>1</b>	4	3	2	5.20E-03	2	0.76		021		
6785.3941	-28	3	2	1	4	1	4	<b>7.51E-04</b>	15	<b>11.60</b>		120	6819.753	-62	8	0	8	7	2	5	<b>2.08E-06</b>	15	0.37		021		
6786.0142	0	4	2	2	5	1	5	<b>1.60E-04</b>	4	14.50		120	6819.9315	-31	3	1	2	2	2	1	<b>6.74E-05</b>	3	0.30		120		
6787.83372	<b>10</b>	3	2	1	4	2	2	<b>3.77E-03</b>	3	0.73		021	6820.468	4	10	3	8	<b>10</b>	3	7	<b>2.00E-06</b>	15	0.50		021		
6788.2975	262	<b>4</b>	<b>1</b>	<b>4</b>	3	2	<b>1</b>	<b>1.22E-05</b>	5	0.25		120	<b>6821.04878</b>	0	2	2	1	3	2	2	<b>3.55E-03</b>	3	0.74		021		
6788.334	-348	<b>5</b>	<b>1</b>	<b>4</b>	6	6	<b>1</b>	3.35E-06	4			002	6821.22508	6	4	1	4	4	<b>1</b>	3	<b>7.16E-04</b>	2	0.84		021		
6788.7982	-5	9	9	6	3	9	8	2	3.96E-07	<b>15</b>			101	6821.7697	-1	7	6	1	8	6	2	<b>3.70E-05</b>	6	0.90		021	
6788.8362	-2	5	9	6	4	9	8	<b>1.90E-07</b>	10	2.63		101	6821.7957	-28	7	6	2	8	6	3	<b>1.11E-04</b>	3	0.90		021		
6790.3788	-6	8	2	7	8	2	6	<b>5.44E-05</b>	8	1.31		021	6822.598	181	5	1	5	5	5	0	<b>5.65E-07</b>	15			101		
6790.64900	5	4	3	1	5	3	2	<b>5.13E-03</b>	3	0.75		021	6824.39560	-4	1	1	0	2	1	1	<b>5.77E-03</b>	3	0.82		021		
6791.55635	9	4	0	4	4	2	3	<b>1.24E-03</b>	3	0.70		021	6824.70165	-4	6	3	3	7	5	2	<b>4.23E-04</b>	2	2.70		101		
6791.88738	2	3	1	3	4	1	4	<b>2.06E-02</b>	2	0.72		021	6824.83212	5	4	4	0	5	4	1	<b>1.90E-03</b>	3	0.75		021		
6794.097	59	11	3	9	11	3	8	<b>4.00E-06</b>	15	1.34		021	6825.041	6	<b>4</b>	<b>4</b>	<b>1</b>	5	4	2	6.50E-04	15	0.77		021		
6794.42342	9	4	3	2	5	3	3	<b>1.83E-03</b>	5	0.78		021	6825.0568	-22	1	0	1	2	0	2	<b>8.50E-03</b>	4	0.83		021		
6794.4524	-9	5	2	3	6	1	6	<b>9.40E-05</b>	10	7.09		120	6825.63573	2	5	4	1	6	3	4	<b>1.08E-04</b>	2	7.46		120		
6795.235	1	6	4	3	1	5	2	<b>1.68E-04</b>	4	10.49		120	6825.9534	-68	11	2	10	10	4	7	<b>8.50E-07</b>	15	2.74		021		
6795.250	0	8	1	8	8	4	5	<b>3.00E-06</b>	15	0.95		200	6826.8613	47	<b>12</b>	6	6	13	6	7	<b>2.43E-06</b>	6	0.46		101		
6795.9560	3	0	8	5	4	9	4	<b>3.74E-05</b>	2																		

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength	X <sub>s</sub>	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength	X <sub>s</sub>	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band
6835.06563	- 9 4 1 3 4 0 4	1.75E-04	7	0.49	120	\$859.	9785	11	5 2 4	5 2 3	2.25E-03	3	0.86		021				
<b>6835.26869</b>	-3 12 5 7 13 5 8	5.80E-06	3	0.54	101	<b>5860.24635</b>	-3	9 3 6 1 0 4 7	1.32E-04	2 5.64		200							
6835.57956	-10 2 1 2 1 0 1	1.940E-04	2	0.58 0.97	120	\$861.	9066	11	5 5 1	6 6 0	5.22E-04	5	1.36		200				
*6836.6759	155 16 0 16 17 0 17	3.13E-06	2	0.77	101	5861.	93203	-8	5 5 0	6 6 1	1.55E-03	3	1.35		200				
6836.8670	3 3 2 1 3 1 2	1.08E-04	2	0.080 1.06	120	5862.	5558	-9	1 1 6 6 1 2 6 7	1.07E-05	4 0.49		101						
6837.124	5 14 2 12 15 2 13	4.00E-06	15	0.97	101	\$863.	07205	1	3 2 2	3 1 3	1.33E-04	2 0.46	0.95	<b>120</b>					
6837.1427	5 4 2 2 4 1 3	3.42E-04	2	0.82	120	863.	4157	-233	14 1 13 15 1 14	1.45E-05	2 0.79		101						
6837.520	0 14 3 12 15 3 13	1.00E-06	15	0.72	101	\$863.	68955	-3	4 1 4	3 0 3	9.75E-04	4 0.56		120					
6837.67659	4 7 4 4 8 5 3	1.53E-04	4	1.49	200	<b>5863.83156</b>	29	6 5 2	7 4 3	4.60E-05	3 16.42		120						
*6838.7511	-8 9 8 2 10 8 3	6.60E-06	2	1.87	021	6864.	5185	-	7 6 1 6	7 3 5	8.35E-05	4 0.90		101					
6839.0290	-38 6 2 5 5 3 2	2.45E-06	5	0.082	120	6864.	9798	-33	15 1 15	16 1 16	1.22E-05	2 0.68		101					
*6839 .074	0 14 1 14 15 0 15	8.80E-06	5	4.31	200	6865.	4246	-27	13 2 11	14 2 12	4.45E-06	4 0.73		101					
6839.70818	6 6 2 5 6 2 4	2.61E-04	3	0.80 0.91	021	6865.	4681	9	13 3 11	14 3 12	1.27E-05	3 0.70		101					
6840.333	0 13 1 12 14 2 13	1.50E-06	15	0.84	200	6865.	96853	27	5 0 5	6 3 4	3.90E-04	6 1.51		200					
6840.482	-456 5 3 3 4 4 0	9.38E-07	15	0.17	120	6865.	986	423	6 0 6 5 2 3	1.18E-05	15 0.19		021						
6840.589	-104 10 5 6 10 7 3	1.09E-06	15	2.80	101	6866.	6778	9	12 1 11	13 2 12	7.55E-06	3 3.30		200					
<b>6840.9007</b>	-13 2 2 0 2 1 1	1.21E-04	3	0.38	120	6867.	0359	-1	13 0 13	14 1 14	3.26E-05	5 4.06		200					
6840.95446	12 5 3 3 6 5 2	5.35E-04	3	2.71	101	<b>6867.15888</b>	-10	6 4 3	7 5 2	1.19E-03	4 1.50		200						
6841.22257	0 7 5 2 8 4 5	3.00E-05	4	14.34	120	6867.	3541	-52	6 5 1	7 4 4	1.30E-05	8 12.73		120					
6841.2834	31 13 4 10 14 4 11	4.95E-06	3	0.73	101	6867.	5058	10	12 2 11	13 1 12	2.25E-05	4 3.24		200					
6841.42728	2 7 4 3 8 5 4	5.65E-04	3	2.03 0.96200	6867.	5647	-22	8 0 8 8 3 5	1.05E-05	10 2.41		200							
6841.588	<b>174</b> 7 3 5 6 5 2	1.00E-06	15	0.36	021	6868.	27335	-	4 6 4 2	7 5 3	4.03E-04	3 1.58		200					
6841.6255	2 7 2 6 6 4 3	2.24E-06	15	0.21	021	6868.	8435	6	11 2 9	12 3 10	2.47E-05	3 3.21		200					
6842.1641	33 12 4 8 13 4 9	4.36E-06	7	0.25	101	6869.	042	<b>-41</b>	8 3 6	8 3 5	4.00E-05	10 0.70		021					
6842.24737	3 5 2 3 5 1 4	5.29E-04	2	0.61 0.97	120	6869.	060	26	4 1 3 3 3 0	1.50E-05	10 0.22		021						
6842.3278	-40 8 2 6 9 4 5	4.71E-05	4	0.27	101	6869.	4526	79	12 4 9	13 4 10	7.30E-06	5 0.75		101					
6843 .35996	1 3 1 3 3 1 2	5.72E-03	2	1.10	021	6869.	557	-33	11 5 6	12 5 7	7.00E-06	15 0.45		101					
6843.9508	-3 10 3 7 11 4 8	1.30E-05	10	6.01	200	6869.	5873	-12	6 3 3	7 1 6	9.43E-05	3 2.25		021					
6844.0455	37 11 7 4 12 7 5	1.01E-06	10	0.41	101	6869.	6563	-15	7 3 4	8 1 7	1.27E-05	4 2.72		021					
6844.704	-35 6 2 5 6 5 2	4.69E-07	15	0.15	200	6869.	7373	-5	4 3 2 5 5	<b>1</b> 1.40E-04	4 2.38		101						
6844.732	-37 11 7 5 12 7 6	3.05E-06	3	0.38	101	6870.	0861	-17	8 4 9 2 7	1.82E-05	4 3.14		021						
6845.14390	15 8 0 8 8 4 5	8.30E-06	10	3.62	101	6870.	3391	-22	7 1 6	7 5 3	5.19E-06	10 4.67		101					
6845.28318	7 4 4 1 5 3 2	7.30E-05	5	6.69	120	6871.	292	-20	5 0 5 4	1 4 7.40E-04	15 0.49		120						
6845.5466	-2 8 2 7 7 4 4	4.16E-07	15	0.20	021	6871.	2965	6	1 1 1	1 1 0	2.20E-02	5 0.85		021					
6845.6810	16 5 3 2 4 4 1	1.12E-06	15	0.061	120	6871.	3540	-31	4 3 1	5 5 0	4.90E-04	4 2.77		101					
6845.74775	-1 9 3 7 9 3 6	5.43E-05	2	1.18	021	6872.	9044	25	7 2 5	7 1 6	1.07E-04	3 0.46		120					
6845.8476	15 7 0 7 6 2 4	1.38E-06	15	0.22	021	6873.	30784	3	4 2 3	4 1 4	3.51E-04	2 0.48		120					
6846.6215	<b>-41</b> 8 1 7 8 5 4	9.90E-06	5	4.17	101	6873.	67365	-3	12 3 9	13 3 10	2.29E-05	2 0.73		101					
6846.6940	-1 5 3 2 6 5 1	1.69E-04	3	2.51 0.96	101	6875.	3187	-24	8 3 5	9 4 6	1.17E-04	6 4.21		200					
●6846.8193	<b>146</b> 6 6 0 7 6 1	2.04E-04	5	0.91 0.95	021	6875.	4060	13	10 7 3	11 7 4	1.07E-05	15 0.40		101					
6847.3225	12 9 5 5 9 7 2	4.05E-06	15	1.83	101	6875.	59408	7	4 2 3	4 2 2	1.79E-03	2 0.80		021					
6847.72607	0 0 0 0 1 0 1	1.50E-02	2	0.77	021	6875.	636	-590	10 7 4	<b>11</b> 7 5	7.55E-06	15 0.84		101					
*6848.842	0 9 8 1 10 9 2	3.07E-07	15		002	6876.	1847	-6	7 2 5	8 4 4	1.65E-05	7 0.12		101					
6849.031	-12 12 5 8 13 5 9	2.31E-06	4	0.54	101	6877.	21728	19	5 1 5	4 0 4	2.50E-04	3 0.51		120					
6849.67778	6 6 1 6 7 2 5	3.45E-04	3	1.25 0.95	200	6877.	<b>2466</b>	1	8 7 3 4	7 2 5	1.27E-04	5 0.73		120					
6849.797	-73 9 5 4 9 7 3	1.38E-06	15	1.86	101	6877.	8649	25	5 0 5 4	<b>2</b> 1.23E-05	<b>4</b> 0.21		021						
6850.113	-396 3 1 3 4 4 0	2.04E-06	15	0.89	200	<b>6878.4459</b>	<b>-27</b>	<b>11 4 8</b> 11 6 5	2.94E-06	3 1.79		101							
6850.1390	-3 4 4 0 5 3 3	2.43E-05	3	6.20	120	6879.	07735	0	11 5 7	12 5 8	2.85E-05	2 0.55		101					
6850.20256	-10 3 1 3 2 0 2	3.28E-04	3	0.55 0.96	120	6879.	3431	<b>-73</b>	8 3 5 9 1 8	9.60E-06	6 2.63		021						
6850.6155	-1 8 6 3 4 4 7	6.15E-06	7		002	6879.	5385	<b>-79</b>	5 3 3 6 6 0	1.33E-06	10		002						
6850.8165	-54 4 1 3 3 2 2	3.90E-05	5	0.27	120	6879.	7620	-23	4 0 4	3 2 1	8.32E-05	2 0.24		021					
6850.850	-365 5 2 3 4 4 0	8.68E-07	15	0.26	021	6879.	8282	-15	7 1 6	8 3 5	6.45E-05	3 0.45		101					
6852.29720	-6 4 0 4 3 1 3	2.52E-04	4	0.44	120	6880.	00838	6	6 1 5	6 0 6	5.06E-05	4 0.42		120					
6853.0155	<b>42</b> 10 1 9 11 4 8	6.00E-07	15		002	6880.	0718	17	4 2 2	5 0 5	9.66E-05	6 0.97		021					
<b>6853.359</b>	<b>-4</b> 8 5 4 8 7 1	1.93E-06	15	1.85	101	6880.	095	-1	7 5 3 2	6 1 5	3.60E-05	15 1.34		021					
6853.4755	1 8 6 2 5 7 4 4	1.57E-04	3	1.44	101	6880.	102	5 6 3 3	6 2 4	1.08E-04	10 1.08		120						
6853.50973	-7 7 3 5 8 4 4	2.97E-04	6	2.17	200	6880.	2867	68	10 2 9	10 4 6	2.83E-06	3 2.41		101					
6854.0177	-12 8 5 3 8 7 2	6.90E-06	3	2.21	101	6880.	501	<b>5 7 2 8 8 1</b>	9 9 0	4.75E-07	10		002						
6854.0956	-1 6 4 0 4 5 4 1	4.38E-05	4	3.03	101	6880.	6246	-3	9 1 8 9 4 5	4.03E-06	5 0.28		200						
6854.24418	19 6 2 4 6 1 5	8.34E-05	2	0.52 1.05	120	6880.	753	374	10 8 2 11 8 3	2.40E-06	5 0.22		101						
6855.0890	-17 9 1 9 9 3 6	1.93E-06	4	0.82	101	6880.	7945	-13	11 4 7 12 4 8	6.23E-06	7 0.24		101						
6855.50945	-37 2 2 1 2 1 2	3.38E-04	4	0.47	120	6880.	8655	-24	3 1 2	4 4 1	1.60E-05	6 1.12		200					
6856.47288	-3 5 1 4 5 0 5	0.01E-04	4	0.47	120	6881.	1095	1	10 2 9	11 3 8	5.00E-06	15		002					
6857.6572	-65 4 1 3 5 4 2	2.25E-05	2	1.62	200	<b>6881.1443</b>	0	<b>8 3 5</b>	<b>8 2 6</b>	1.59E-05	<b>2</b> 0.58		120						
*6858.0616	54 7 7 1 8 7 2	4.25E-05	2	1.05	021	6881.	45857	4	5 1 4	4 2 3	1.36E-04	2 0.26		120					
6858.5782	-4 10 4 6 11 2 9	2.39E-06	7	5.64	021	6881.	56031	-12	3 2 1	4 0 4	8.70E-05	2 1.34	1.01	021					
6858.9057	0 9 4 5 10 2 8	2.65E-06	5	4.28	021	6882.	43450	5	1 1 0	1 1 1	6.63E-03	3 0.75		021					
6859.1622	1 7 5 3 7 7 0	5.90E-06	15	2.25	101	6883.	3888	-6	4 1 0 5 5	1 1 3 8	4.71E-06	7 13.57		021					
6859.1885	53 5 2 3 4 3 2	1.55E-05	10	0.14	120	6883.	7140	4	1 1 4 8 1 1 4	7</									

Table 4. continued

observed position o-c	upper J	K <sub>a</sub>	lower Kc	observed strength	%s R <sub>1</sub> <sup>a</sup> R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J	K <sub>a</sub>	lower Kc	observed strength	%s R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band									
*6885. 398 -215	9	7	2	10 .8	3	<b>1.34E-06</b>	10	002	6910. 1752	61	3	2	2	2	1	1	<b>3.30E-04</b>	3	0.84	120		
6885. 91357 0	3	2	2	3	2	<b>1.35E-02</b>	5	0.84	6910. 21917	0	5	3	3	5	3	2	<b>4.97E-03</b>	3	0.93	021		
6885. 9756 2	5	2	4	5	1	<b>1.00E-04</b>	10	0.59	6910. 496	- 1	3	6	1	5	5	2	<b>4.65E-05</b>	4	0.30	120		
6886. 2824 17	6	3	4	7	0	<b>7.00E-06</b>	15	3.52	6911. 16721	- 1	6	3	3	7	4	4	<b>6.48E-04</b>	2	2.29	200		
6886. 39872 -22	4	3	2	5	0	<b>1.16E-04</b>	1034. 65		6911. 38465	9	4	3	2	4	2	3	<b>3.13E-03</b>	7	6.01	120		
6887. 0808 6	9	2	7	10	1	<b>4.05E-06</b>	4		6911. 6310	5	4	0	4	5	3	3	<b>1.75E-04</b>	2	1.55	200		
6887. 2779 -5	5	3	2	5	"2	<b>5.49E-04</b>	3	1.29	6912. 4122	1	2	5	3	3	5	2	<b>9.00E-07</b>	90.	006	120		
6887. 82839 -2	7	3	5	7	3	<b>5.59E-04</b>	2	0.94	6912. 54955	- 1	8	4	5	8	6	2	<b>1.17E-05</b>	3	2.00	<b>101</b>		
6888. 10945 7	6	0	6	5	1	<b>1.60E-04</b>	3	0.44	6912. 7688	47	10	6	5	11	7	4	<b>2.60E-06</b>	4		002		
6889. 3596 -4	9	0	9	10	3	<b>5.90E-06</b>	10		6913. 13975	4	5	1	5	6	2	4	<b>3.28E-04</b>	3	1.32	200		
6890. 45241 4	6	3	4	7	4	<b>2.40E-03</b>	7	2.24	6913. 6383	- 29	10	6	4	11	7	5	<b>8.90E-07</b>	7		002		
6890. 946 -5	0	6	2	5	7	<b>1.50E-03</b>	10	1.77	6914. 54896	- 3	4	3	2	4	3	1	<b>3.60E-03</b>	3	0.83	021		
6890. 949 -59	6	1	6	5	0	<b>4.60E-04</b>	15	0.43	6914. 91135	13	6	4	3	7	1	6	<b>1.83E-04</b>	3	18.50	120		
6891. 18622 -10	2	2	1	2	2	<b>9.73E-03</b>	3	0.81	6915. 6567	26	9	2	7	10	3	8	<b>2.53E-04</b>	3	3.94	200		
6891. 2929 -55	13	1	12	14	1	<b>1.0E-05</b>	15	1.13	6915. 6938	-	2	5	1	5	6	3	<b>6.15E-04</b>	3	0.97	101		
6891. 3444 -4	6	7	4	3	8	<b>2.40E-05</b>	15	3.60	6916. 0284	- 2	2	6	1	5	5	3	<b>2.18E-05</b>	15	0.11	021		
<b>6891. 7389</b> 24	10	6	4	11	6	<b>3.96E-05</b>	6	0.52	6916. 3743	-31	3	3	1	3	3	0	<b>2.36E-02</b>	2	0.82	021		
6891. 7877 -9	2	2	0	3	0	<b>1.95E-04</b>	3	1.14	6916. 531	-84	7	2	6	7	1	7	<b>4.00E-05</b>	10	0.71	120		
6891. 86533 -16	7	3	4	8	4	<b>8.68E-04</b>	2	3.10	<b>6916. 73333</b>	-3	3	3	0	3	3	1	<b>7.86E-03</b>	2	0.82	021		
6892. 04177 5	5	2	4	6	4	<b>1.00E-03</b>	3	1.77	6916. 874	151	8	0	8	7	1	7	<b>8.71E-05</b>	15	<b>0.66</b>	120		
6892. 29127 -9	5	2	3	6	0	<b>3.30E-05</b>	8	2.77	6916. 94411	-	7	4	3	1	4	3	<b>2.12E-02</b>	4	0.85	021		
6892. 63443 -1	2	2	1	1	0	<b>1.0E-03</b>	10	0.70	6917. 36858	-3	2	0	2	1	0	1	<b>3.06E-02</b>	4	0.85	021		
*6892. 7390 62	14	0	14	15	0	<b>4.81E-05</b>	4	0.66	6917. 6279	13	8	1	8	7	0	7	<b>1.77E-04</b>	3	0.45	120		
6892. 9215 -56	9	3	6	9	2	<b>1.65E-05</b>	10	0.50	6917. 741	33	8	1	8	8	3	5	<b>2.00E-06</b>	15	0.49	101		
6893. 24160 0	2	1	1	2	1	<b>9.24E-03</b>	2	0.78	6917. 95169	-5	2	1	2	1	1	1	<b>6.60E-03</b>	4	0.76	021		
6893. 309 112	12	3	10	13	3	<b>5.00E-06</b>	15	0.21	6918. 4774	12	12	1	11	13	1	12	<b>1.49E-04</b>	4	<b>0.73</b>	101		
6893. 4360 18	10	2	8	11	3	<b>2.09E-05</b>	15	2.67	6918. 517	8	7	2	5	6	4	2	<b>5.00E-06</b>	15	0.39	021		
6893. <b>64779</b> -3	2	2	0	2	2	<b>2.98E-02</b>	2	0.82	6918. 7615	-10	12	2	11	13	2	12	<b>4.80E-05</b>	3	0.71	101		
6894. 1538 -14	3	0	3	4	4	<b>6.00E-06</b>	15	2.77	6919. 03280	1	5	3	2	5	3	3	<b>1.55E-03</b>	3	0.85	021		
<b>*6894. 3742</b> -229	12	1	12	13	0	<b>13</b>	<b>1.15E-04</b>	2	4.01	6919. 2083	-	1	6	7	4	4	7	6	<b>1.412E-05</b>	7	1.87	101
6894. 50465 -7	11	2	10	12	1	<b>2.50E-05</b>	7	3.09	6919. 47933	6	5	2	3	6	4	2	<b>1.27E-03</b>	3	4.42	101		
6894. 7118 25	12	2	10	13	2	<b>4.33E-05</b>	3	0.59	6919. 6144	-1	6	3	4	6	2	5	<b>5.19E-05</b>	3	0.19	120		
6894. 9324 -44	7	3	5	8	0	<b>1.37E-06</b>	15		6919. 8464	0	8	7	2	9	8	1	<b>1.53E-06</b>	5		002		
6895. 14783 0	1	0	1	0	0	<b>5.30E-03</b>	3	0.76	6919. 9477	7	13	1	13	14	1	14	<b>1.96E-04</b>	2	0.74	101		
6895. 2129 6	11	1	10	12	2	<b>11</b>	<b>7.50E-05</b>	7	3.16	6920. 3028	17	6	4	2	7	2	5	<b>3.71E-05</b>	4	2.49	021	
6895. 651 45	5	4	2	6	5	<b>1.20E-03</b>	10	1.97	6920. 4121	-63	8	1	7	8	4	4	<b>5.90E-06</b>	5	0.43	200		
6895. 663 -103	4	3	1	4	2	<b>2.00E-04</b>	15	1.19	6920. 5305	10	11	3	9	12	3	10	<b>2.04E-04</b>	10	0.78	101		
6895. 89462 -3	<b>5</b>	<b>4</b>	<b>1</b>	6	5	<b>2.66E-03</b>	3	1.47	6920. 93605	-11	11	0	11	12	1	12	<b>2.44E-04</b>	3	3.50	200		
6896. 5230 18	8	2	6	8	1	<b>1.32E-05</b>	5	0.40	6921. 03481	-6	<b>11</b>	1	11	12	0	12	<b>7.90E-05</b>	4	<b>3.40</b>	200		
6897. 31180 5	3	2	1	3	2	<b>4.18E-03</b>	2	0.76	6921. 5701	-11	10	1	9	11	2	10	<b>7.22E-05</b>	3	2.93	1.01		
6897. 5408 -28	11	4	8	12	4	9	7.72E-05	3	0.67	6921. 7054	0	9	4	6	9	4	5	<b>8.53E-05</b>	3	1.23	0.99	
6897. 833 -34	7	2	5	7	5	<b>2</b>	<b>1.94E-06</b>	6	0.28	6922. 2405	-52	6	4	3	6	6	0	<b>1.05E-05</b>	7	1.93	101	
6898. 176 -185	13	<b>1</b>	13	13	2	<b>1.16E-06</b>	3	0.51	6922. 4561	-3	11	2	9	12	2	10	<b>5.31E-05</b>	3	0.60	101		
6898. 2409 2	13	0	13	13	1	<b>3.50E-06</b>	5	0.51	6922. 5511	0	9	2	7	9	1	8	<b>1.27E-05</b>	4	<b>0.33</b>	120		
6898. 51685 21	6	0	6	7	2	<b>2.60E-04</b>	2	<b>0.64</b>	6922. 6209	-52	7	4	3	7	6	2	<b>1.66E-05</b>	10	2.25	101		
6898. 93968 4	2	2	0	1	1	<b>3.77E-04</b>	3	0.89	6922. 77923	6	5	2	3	5	2	4	<b>1.13E-03</b>	7	1.11	021		
6900. 0035 -5	<b>4</b>	<b>3</b>	<b>1</b>	5	1	<b>1.26E-04</b>	2	1.52	6923. 1410	-93	9	6	3	10	6	4	<b>4.80E-05</b>	5	0.63	101		
6900. 58910 -3	6	2	5	6	1	<b>1.37E-04</b>	2	0.44	6923. 2407	-25	8	4	4	8	6	3	<b>3.82E-05</b>	3	2.10	101		
6901. 66340 11	6	3	4	6	3	<b>5.62E-04</b>	2	0.89	6923. 45907	0	4	4	1	5	5	0	<b>5.21E-03</b>	3	1.38	200		
6901. 7747 5	8	4	5	9	1	<b>1.80E-05</b>	240.	11	120	6923. 49852	2	4	4	0	5	5	1	<b>1.77E-03</b>	4	<b>1.41</b>	200	
6901. 9622 2	11	3	8	12	3	<b>3.51E-05</b>	2	0.82	6923. 617	-47	7	0	7	7	3	4	<b>1.25E-05</b>	15	0.26	200		
6902. 47856 -9	3	3	0	3	2	<b>9.63E-04</b>	2	2.22	<b>6923. 6684</b>	-4	9	6	4	1	0	6	<b>1.17E-04</b>	2	0.51	101		
6902. 513 -110	10	3	8	11	2	<b>6.70E-05</b>	15	1.94	6924. 2015	-1	6	6	0	6	6	4	<b>4.31E-05</b>	4	3.92	101		
6902. 8992 0	7	0	7	6	1	<b>2.93E-04</b>	3	0.42	6924. 6163	-2	0	6	4	2	6	6	<b>3.70E-05</b>	3	2.26	101		
6902. 99582 -10	10	5	5	11	5	<b>1.03E-04</b>	2	0.59	6924. 78054	14	4	2	3	3	1	2	<b>6.99E-04</b>	2	0.77	120		
6903. 41449 2	7	1	6	7	0	<b>7.92E-05</b>	2	0.43	6924. 82295	17	6	3	3	6	3	4	<b>1.76E-03</b>	2	0.87	021		
6904. 34455 -18	9	4	6	9	6	<b>2.00E-05</b>	4	1.95	6925. 3333	-2	3	8	1	7	8	0	<b>8.12E-05</b>	6	0.39	120		
6904. 53044 24	7	1	7	6	0	<b>1.05E-04</b>	2	0.45	6925. 8089	-7	1	0	4	7	1	1	<b>4.80E-05</b>	3	0.60	101		
6905. 05727 2	4	2	2	<b>4</b>	2	<b>3.24E-03</b>	7	0.45	692													

Table 4. continued

observed position o-c	J	K <sub>a</sub>	Kc	upper r	lower r	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position o-c	J	K <sub>a</sub>	Kc	upper	lower	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band									
6930.73642	1	3	2	1	2	1	<b>3.80E-03</b>	<b>4</b>	4.75	120	6951.0908	0	1	3	0	1	3	1	3	2	1	2	<b>2.60E-06</b>	10	0.82	101		
6930.86928	3	5	3	3	6	<b>4</b>	<b>2</b>	<b>4.22E-04</b>	6	0.52	200	6951.1526	0	1	3	1	1	3	1	3	1	1	2	<b>7.50E-06</b>	5	1.56	101	
6931.3923	-10	9	2	8	9	<b>4</b>	<b>5</b>	<b>1.20E-05</b>	2	0.62	101	6951.55283	-5	7	2	5	8	3	6	<b>1.56E-03</b>	2	3.91	200					
6931.46291	-25	9	3	7	10	2	<b>8</b>	<b>2.93E-05</b>	3	0.83	200	6952.30758	12	8	3	5	8	3	6	<b>1.59E-04</b>	4	0.75	021					
6931.5924	15	10	3	7	11	3	<b>8</b>	<b>4.03E-04</b>	3	0.83	0.93	101	6952.3770	3	7	0	7	7	5	2	<b>1.84E-06</b>	15		002				
*6932.0948	44	8	7	2	8	8	1	7.20E-07	100	0.083	200	6952.4970	-7	1	1	0	1	1	0	1	1	0	1	<b>1.66E-05</b>	6	0.44	120	
6932.2330	<b>-47</b>	7	2	5	8	0	8	<b>5.78E-06</b>	3	4.75	021	6953.09878	0	5	1	4	5	1	5	<b>4.03E-04</b>	3	0.66	021					
6932.64075	-2	2	6	1	5	7	3	<b>4</b>	6.13E-04	3	0.44	101	6953.743	-30	11	1	11	11	2	10	<b>1.58E-05</b>	15	0.66	200				
6932.7450	-1	4	1	0	4	6	1	0	<b>6</b>	5	1.02E-05	101	6953.753	-9	5	4	1	6	2	4	<b>2.70E-06</b>	15	0.66	021				
6933.1980	2	8	2	7	8	1	8	<b>3.49E-05</b>	4	0.42	120	6953.9361	1	2	1	1	0	1	1	1	1	1	0	<b>3.93E-05</b>	4	0.54	200	
*6933.592	-3	0	8	8	0	9	8	<b>1</b>	<b>1.50E-05</b>	2	0.32	101	6954.00945	-6	8	6	2	9	6	3	<b>3.18E-04</b>	3	0.55	101				
6933.6571	-2	8	4	5	8	4	4	<b>9.60E-05</b>	10	1.06	021	6954.1699	<b>21</b>	8	6	3	9	6	4	<b>1.02E-04</b>	3	0.53	101					
6933.70950	1	5	3	2	6	4	3	<b>3.95E-03</b>	3	1.78	200	6954.2691	-49	8	5	4	9	2	7	<b>2.35E-05</b>	10		120					
6934.6018	1	7	8	2	6	9	3	<b>7</b>	<b>2.28E-04</b>	2	4.22	200	6954.3919	23	9	4	6	10	4	7	8.1	0E-04	6	0.65	101			
6934.86527	-4	8	4	4	8	3	5	<b>1.28E-05</b>	3	1.17	101	6954.44361	1	<b>4</b>	<b>1</b>	<b>4</b>	3	1	3	1.03E-02	4	0.82	021					
6935.6760	38	9	5	<b>4</b>	10	5	5	<b>1.13E-04</b>	2	0.60	101	6955.15685	-8	4	0	4	3	0	3	<b>3.19E-02</b>	2	0.82	021					
6935.85255	1	7	3	4	7	3	5	<b>1.83E-04</b>	2	0.81	021	6955.173	-65	9	3	7	9	2	8	<b>6.00E-06</b>	15	0.58	<b>120</b>					
6936.7467	5	7	1	6	6	2	5	<b>9.39E-05</b>	6	0.30	120	6955.542	-3	6	8	1	1	3	8	1	2	1	1	<b>1.27E-05</b>	15		021	
6937.1046	5	7	5	2	4	4	1	<b>3</b>	<b>1.55E-04</b>	15	0.72	120	6955.9896	28	9	4	5	9	4	6	<b>2.32E-05</b>	10	0.91	021				
6937.22938	-1	3	1	3	2	1	2	<b>2.65E-02</b>	2	0.72	021	6956.31488	-1	<b>3</b>	<b>1</b>	<b>2</b>	2	1	1	<b>8.80E-03</b>	4	0.77	021					
6937.33786	-5	3	0	3	2	0	2	<b>1</b>	<b>1.33E-02</b>	4	0.81	021	6957.25951	10	2	2	1	2	0	2	<b>1.93E-04</b>	3	0.57	021				
*6937.842	61	8	7	1	9	7	2	<b>9.50E-05</b>	2	0.41	101	6957.4715	-1	5	3	2	2	4	4	<b>1.38E-03</b>	3	2.42	<b>101</b>					
6938.6581	0	1	1	5	6	1	2	<b>7</b>	<b>7.90E-07</b>	1S	002	6957.5923	1	6	8	1	7	9	4	<b>1.65E-05</b>	15		002					
6939.1916	1	5	9	5	5	1	0	<b>5</b>	<b>6</b>	<b>3.45E-04</b>	3	0.60	101	6957.86333	9	4	3	2	5	4	1	<b>5.95E-03</b>	7	1.19	200			
6939.338	-166	6	6	1	7	5	2	<b>4.34E-06</b>	15	8.58	120	6958.0596	69	6	4	2	6	3	3	6.00E-05	10	1.52	<b>120</b>					
6939.5288	-5	6	6	0	7	5	3	<b>8.40E-07</b>	15		120	6958.77652	-3	4	3	1	5	4	2	<b>2.42E-03</b>	3	1.49	200					
6939.76025	-6	5	2	4	6	3	3	<b>1.35E-03</b>	4	1.79	200	6959.0823	-44	8	2	6	9	0	9	<b>8.40E-06</b>	10	7.10	021					
6940.4340	-52	9	6	3	1	0	7	<b>4</b>	<b>7.20E-06</b>	10		002	6959.4013	1	6	1	1	5	7	1	1	5	6	<b>4.40E-06</b>	5	1.03	021	
6940.52291	0	7	4	4	7	4	3	<b>8.42E-04</b>	3	0.93	021	6959.789	-3	8	1	7	7	2	6	<b>1.88E-05</b>	15	0.33	120					
6941.4255	-2	8	1	0	0	1	0	<b>9.19</b>	<b>1.40E-05</b>	3	0.46	120	6960.10544	<b>21</b>	7	2	6	6	1	5	<b>6.66E-05</b>	15	0.74	120				
6941.78080	11	9	4	5	1	0	4	<b>6</b>	<b>2.32E-04</b>	2	0.65	101	6960.2965	2	8	3	6	8	5	3	5.	<b>01E-05</b>	3	2.31	101			
6941.8717	12	10	1	10	9	0	9	<b>4.40E-05</b>	3	0.48	120	6960.7530	-1	0	1	0	5	6	1	1	4	7	<b>6.25E-05</b>	8	10.82	200		
6942.02398	-5	4	2	2	5	4	1	<b>2.89E-03</b>	3	3.35	101	6961.17262	7	5	0	5	6	2	4	<b>2.61E-04</b>	3	0.60	101					
6942.1955	-25	8	3	6	8	2	7	<b>2.34E-05</b>	15	0.32	120	6961.30814	-13	3	2	2	3	0	3	<b>1.19E-03</b>	2	0.57	021					
6942.40264	-10	6	2	4	6	2	5	<b>1.12E-03</b>	3	0.89	021	6962.0184	-28	8	6	3	8	7	2	<b>3.88E-06</b>	3	0.13	200					
6942.4958	<b>-1</b>	9	3	7	9	5	4	<b>5.40E-05</b>	4	1.89	101	6962.26724	-2	4	1	4	5	3	3	<b>4.39E-04</b>	2	1.15	101					
6943.20290	-43	<b>14</b>	1	13	<b>14</b>	3	12	<b>1.04E-06</b>	6	0.65	101	6962.302	15	8	6	2	8	7	1	<b>1.30E-06</b>	15	0.13	200					
6943.805	-20	14	2	13	<b>14</b>	2	12	6.00E-07	15		101	6962.7188	-11	8	2	6	7	3	5	<b>1.68E-06</b>	15	0.072	120					
6943.8497	0	1	1	4	7	1	1	<b>6</b>	<b>1.20E-06</b>	15	1.30	101	6962.7877	5	3	8	1	8	9	2	<b>6.45E-05</b>	3	90.32	0.86002				
6944.18660	-5	6	4	3	6	4	2	<b>7.77E-04</b>	2	0.89	021	6963.16828	-2	3	2	2	2	2	1	<b>1.48E-02</b>	2	0.81	021					
6944.317	-30	9	3	6	1	0	3	<b>1</b>	<b>1.10E-04</b>	15	0.20	101	6963.7387	-2	3	2	1	4	4	0	<b>5.70E-04</b>	4	2.83	101				
6944.8514	0	1	1	1	1	0	1	<b>1</b>	<b>1.58E-04</b>	4	0.70	101	6963.9187	-1	9	1	0	1	9	1	0	1	0	1				120
6945.4302	1	9	9	1	8	9	0	<b>9</b>	<b>1.40E-05</b>	4	0.37	120	6965.050	533	10	0	10	9	4	5	<b>6.09E-07</b>	15		101				
6945.48503	7	11	2	10	12	2	11	<b>4.91E-04</b>	3	0.72	101	6965.068	-431	10	3	8	10	6	5	<b>2.30E-06</b>	15		002					
6945.98776	11	6	4	2	6	4	3	<b>2.50E-03</b>	4	0.95	021	6965.58408	7	9	4	6	10	3	7	<b>3.28E-04</b>	721	13	200					
6946.03230	-10	5	4	2	5	4	1	<b>5.96E-03</b>	3	0.89	021	6965.80225	-9	5	4	1	5	3	2	<b>3.25E-04</b>	4	1.83	120					
6946.41203	<b>-5</b>	<b>5</b>	<b>4</b>	<b>1</b>	5	4	2	<b>1.97E-03</b>	3	0.88	021	6966.6895	5	3	7	2	5	7	2	<b>1.54E-04</b>	3	0.90	021					
6946.5131	4	8	7	4	3	7	4	<b>2.80E-04</b>	2	0.91	021	6966.881	3	9	8	1	4	4	1	<b>3.00E-06</b>	15		101					
6946.560	314	12	1	12	13	1	13	<b>1.59E-04</b>	<b>5</b>	0.71	101	6966.9595	11	8	6	3	9	7	2	<b>1.64E-05</b>	4		002					
6946.5788	-10	12	0	12	13	0	13	<b>4.76E-04</b>	5	0.71	101	6967.33566	7	6	2	4	7	3	5	1.1	0E-03	5	3.44	200				
6946.79401	-7	1	0	1	1	0	1	<b>5.20E-04</b>	7	2.53	200	6967.41065	1	8	5	3	9	5	4	<b>1.05E-03</b>	10	0.69	101					
6947.0208	-37	4	4	1	4	4	0	<b>4.50E-03</b>	10	0.88	021	6967.44927	-2	3	2	1	2	2	0	5.00E-03	3	0.82						

Table 4. continued

observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band	observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strengths %s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band				
6971. 578 -34	4	4	1	4	3	2	2.00E-04	15	1.09	120	6989. 3924	156	4	3	1	4	0	4	3.20E-05	4	4.73		
6971. 59156 10	5	0	5	4	0	4	9.71E-03	2	0.92	021	6990. 1110	1	13	2	11	13	4	10	1.00E-06	15	0.76		
6971. 6030 -1	10	2	9	11	2	10	4.40E-04	10	0.64	101	6990. 4010	-9	9	5	4	9	6	3	1.01E-05	4	0.26		
6971. 766 -2	4	3	2	5	1	5	8.50E-06	15	1.73	021	6992. 3590	30	6	4	3	7	2	6	6.40E-06	6	3.28		
6971. 778 -92	5	3	3	6	1	6	2.00E-05	10	1.78	021	6992. 8921	-15	8	5	4	8	6	3	2.05E-05	10	0.22		
6971. 8027 -17	8	1	7	9	2	8	4.50E-04	3	2.67	200	6993. 2540	35	5	3	2	5	5	1	2.00E-05	15	0.71		
6972. 045 -898	10	1	9	11	1	10	1.61E-03	5	0.78	101	6993. 26315	-7	4	2	2	3	2	1	1.54E-02	2	0.68		
6972. 2175 3	13	2	12	13	2	11	5.00E-06	15	1.54	101	6993. 65082	-10	8	2	6	8	2	7	1.70E-04	4	0.82		
*6972. 7456 -246	11	1	11	12	1	12	2.25E-03	2	0.83	101	6994. 90370	-12	7	1	6	8	2	7	3.11E-03	3	2.83		
6972. 80988 6	7	3	5	7	5	2	4.10E-04	10	3.81	101	6994. 940	-2	8	5	3	8	6	2	7.00E-06	15	0.23		
6972. 84502 0	9	0	9	10	1	10	1.68E-03	4	3.08	200	6995. 5140	-73	9	2	7	8	3	6	4.71E-06	4	0.13		
6972. 92039 -4	9	1	9	10	0	10	5.38E-04	3	2.95	200	6995. 78498	-7	6	2	5	6	0	6	1.62E-04	2	0.44		
<b>6973. 1469 29</b>	8	?	7	7	1	6	<b>7.87E-05</b>	2	0.52	1.00	120	<b>6995. 9385</b>	7	6	3	3	6	5	2	<b>1.87E-04</b>	4	1.38	
6973. 30352 -2	7	i	7	7	3	4	9.40E-05	4	1.57	101	6997. 51263	11	8	0	8	9	1	9	1.07E-03	10	2.45		
6973. 66494 8	9	3	7	1	0	3	8	1.81E-03	4	0.70	101	6997. 65432	-6	9	1	8	10	1	9	1.43E-03	3	0.76	
6974. 0523 -5	1	1	2	1	0	1	1	3	9	200	<b>6997. 79015</b> 0	8	1	8	9	0	9	3.80E-03	3	2.88			
6974. 50170 24	9	5	5	9	5	4	7.40E-05	7	0.92	021	<b>6997. 99375</b> 1	9	2	8	10	2	9	4.04E-03	2	0.71			
6974. 61700 -3	8	4	4	9	4	5	2.20E-03	3	0.70	101	<b>6998. 16990</b> -15	10	0	10	11	0	11	4.30E-03	4	0.76			
6974. 66308 -9	9	2	7	10	2	8	7.47E-04	4	0.83	101	6W8. 1956	-42	7	5	2	8	5	3	7.56E-04	10	0.65		
6974. 7381 -1	8	8	4	5	8	3	8	8.23E-05	2	2.01	120	6W8. 2388	-3	10	1	10	11	1	11	1.40E-03	3	0.74	
6975. 03692 -2	8	2	7	9	1	8	1.28E-03	4	2.24	200	<b>6998. 2798</b> -114	12	1	11	12	3	10	1.91E-05	15	0.72			
6975. 42415 1	5	1	4	6	3	3	4.47E-04	3	0.43	101	<b>6998. 80970</b> 0	7	5	3	8	5	4	2.21E-03	5	0.63			
6976. 3288 -46	4	0	4	4	4	1	1.87E-05	3	2.73	101	6W8. 9901	9	8	3	6	9	1	9	1.93E-04	8	544.3		
6976. 7330 -5	6	3	4	7	1	7	6.65E-06	4	3.24	021	6999. 1345	-31	7	5	3	7	6	2	1.48E-05	3	0.26		
6976. 9551 2	9	3	3	1	4	1	1.56E-05	3	1.49	021	6999. 59056	3	4	3	2	3	2	1	2.41E-03	6	2.78		
6977. 0446 -48	5	1	4	5	4	1	2.80E-05	4	0.51	200	6999. 7594	12	7	5	2	7	6	1	4.40E-05	5	0.26		
6977. 58835 -2	6	1	5	6	1	6	6.35E-04	3	0.64	021	6999. 97680	6	8	3	6	9	3	7	1.53E-03	2	0.67		
6977. 7803 3	9	5	4	9	5	5	3.30E-05	10	1.21	021	7000. 6421	1	8	2	6	9	2	7	6.53E-03	7	0.86		
6977. 81860 5	8	5	4	8	5	3	8.26E-05	2	0.87	021	7000. 80255	1	8	4	5	9	3	6	1.46E-03	3	14.72		
6977. 8943 3	1	1	0	5	5	1	0	5	6	021	7000. 928	-41	12	2	11	12	2	10	6.00E-06	15	1.36		
6978. 447 -82	3	3	1	2	2	0	8.30E-06	15	0.018	120	7001. 0524	2	7	3	4	7	5	3	6.58E-05	4	1.47		
6978. 4985 6	9	1	2	1	2	1	2.92E-05	3	0.85	101	7001. 1252	18	10	4	7	10	5	6	3.10E-05	10	0.73		
6978. 6115 -6	8	3	5	9	3	6	2.98E-03	5	0.59	101	7001. 26209	0	7	1	6	7	1	7	1.08E-04	6	0.65		
6978. 612 -14	12	1	12	12	1	11	1.00E-05	15	1.65	101	7001. 4991	24	10	2	9	10	3	8	1.00E-04	5	0.59		
6978. 631 2	1	3	8	5	3	8	5	2.00E-04	10	0.70	021	7001. 57270	-7	7	2	6	8	1	7	7.65E-04	4	1.74	
6979. 29955 -3	3	1	1	1	1	0	1	1	2	9	200	7001. 68485	11	7	2	6	7	4	3	3.10E-04	3	1.37	
6979. 461 133	9	5	5	1	0	6	4	4.13E-06	15	002	7001. 84456	13	4	2	2	5	3	3	3.31E-03	6	2.11		
6979. 640 192	4	1	3	4	4	0	2.14E-06	15	0.37	200	7001. 923	-138	7	0	7	6	0	6	4.45E-03	6	0.93		
6979. 733 -3	8	3	3	0	2	2	1.24E-04	15	0.16	120	7001. 9482	-66	7	1	7	6	1	6	1.40E-02	3	0.96		
6979. 740 10	7	5	2	7	5	3	2.15E-04	15	0.74	021	7003. 1045	15	7	1	6	8	4	5	.19E-04	6	002		
6979. 84695 -5	7	5	3	7	5	2	6.37E-04	2	0.73	021	7003. 462	-25	5	4	2	6	2	5	1.85E-05	15	2.70		
6979. 98732 17	6	5	2	6	5	1	7.28E-04	3	0.90	0.98	021	7003. 73149	0	3	1	3	4	3	2	2.70E-03	4	1.78	
6980. 2699 -14	10	1	10	10	2	9	8.00E-05	5	0.39	200	7004. 22724	1	5	1	4	4	1	3	6.27E-03	3	0.79		
6980. 5412 -11	4	2	3	5	3	2	9.29E-03	2	1.83	200	7004. 2674	-33	6	5	2	6	6	1	7.41E-05	15	0.35		
6980. 75528 -3	6	5	1	6	5	2	2.41E-03	3	0.99	021	7004. 4329	-52	6	5	1	6	6	0	1.91E-05	15	0.27		
6981. 1127 1	7	4	1	3	3	1	2.40E-02	3	0.75	021	7004. 75510	1	2	0	1	0	1	0	2.93E-04	2	0.42		
6981. 1405 -65	5	2	4	5	0	5	1.00E-03	10	0.57	021	7005. 4480	0	11	0	11	11	2	10	2.77E-05	3	0.73		
6981. 5275 -4	5	5	1	5	5	0	5.77E-03	4	0.	021	7005. 6704	-11	9	5	5	10	3	8	7.00E-06	10	18.33		
6981. 546 -3	9	1	0	1	0	1	3.00E-05	15	0.44	200	7005. 7479	2	11	1	11	11	1	10	8.34E-05	4	1.34		
6981. 5535 1	9	5	5	0	5	5	1.93E-03	4	0.96	021	7006. 0094	-7	10	3	7	10	3	8	3.85E-05	10	2.01		
6981. 8256 2	6	3	4	6	5	1	1.17E-04	3	2.81	0.98	101	7006. 12678	1	5	2	4	4	2	3	1.63E-02	2	0.83	
*6982. 7520 -6	5	1	2	8	4	11	1	8.00E-07	15	01	7006. 135	11	5	0	5	5	3	2	2.00E-04	15	0.77		
6983. 0960 37	9	5	5	9	6	4	2.60E-06	10	0.18	200	7006. 3641	14	8	3	5	8	5	4	1.67E-04	9	1.58		
6983. 1796 -8	1	0	3	8	1	0	2	4.43E-05	2	3.790.	96	120	7006. 767	-133	12	4	8	12	4	9	2.20E-06	15	2.35
6983. 3068 2	2	8	4	5	9	4	6	7.10E-04	3	0.62	0.91	101	7007. 03570	0	7	4	3	8	4	4	1.80E-03	3	0.69
6983. 66783 -7	5	2	3	6	3	4	5.93E-03	3	2.69	200	7007. 0684	106	9	1	9	9	2	8	1.15E-04	10	0.66		
6984. 0940 6	2	0	2	3	3	1	4.91E-05	3	1.40	200	7007. 3204	19	8	5	4	9	6	3	2.10E-05	631.60	002		
6984. 29966 11	7	6	1	8	6	2	1.83E-04	5	0.47	101	7007. 4859	-6	9	3	6	9	5	5	3.07E-05	6	1.31		
6984. 33525 3	7	6	2	8	6	3	5.56E-04	3	0.48	101	7008. 3155	12	9	0	9	9	1	8	3.57E-04	10	0.67		

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>B</sup>	R2 <sup>b</sup> band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>B</sup>	R2 <sup>b</sup> band		
7012. 69447	0	7	4	4	8	4	5	<b>5.05E-03</b>	8	0.62	101	7033. 1294	73	6	4	2	7	1	7	<b>1.02E-05</b>	2		120		
7012. 84145	18	5	3	3	4	2	2	<b>9.95E-04</b>	7	6.10	120	7033. 4268	47	5	3	2	4	2	3	<b>4.70E-06</b>	15	0.009	120		
7013. 1482	0	1	0	6	4	1	0	<b>1.59E-05</b>	15	0.94	021	7033. 4825	-8	8	5	4	8	4	5	<b>7.11E-06</b>	10	0.41	120		
7013. 17208	-6	4	3	2	3	3	1	<b>2.61E-03</b>	5	0.81	021	7033. 5223	-8	3	2	1	2	0	2	<b>1.34E-04</b>	10	0.29	021		
7014. 04248	-2	4	3	<b>1</b>	3	3	0	<b>7.92E-03</b>	3	0.82	021	7033. 5666	6	7	5	3	8	3	6	<b>4.26E-04</b>	2305	2	021		
7014. 1169	-8	9	3	7	1	0	1	1	0	2.53E-04	5	689.4	021	7033. 9414	-5	7	4	4	7	5	3	<b>3.90E-05</b>	2	0.24	200
7014. 2991	3	1	0	2	8	1	1	0	1	1	021	7034. 2157	-3	3	<b>1</b>	2	4	3	1	<b>4.04E-04</b>	3	0.32	101		
*7014. 4611	100	6	6	0	7	6	1	<b>1.33E-03</b>	2	0.63	101	7034. 447	-31	7	5	3	8	6	2	<b>3.30E-05</b>	15	56.15	002		
7014. 5648	0	3	2	2	4	3	1	<b>5.60E-03</b>	7	1.75	200	7034. 47480	-13	5	1	4	6	2	5	<b>1.03E-02</b>	3	2.77	200		
7014. 576	-3	2	9	6	4	9	6	<b>7.00E-05</b>	15	1.09	021	7034. 797	-209	7	5	2	8	6	3	<b>1.00E-04</b>	15	54.35	002		
7014. 8081	2	0	9	6	3	9	6	<b>2.34E-05</b>	15	1.10	021	7034. 8322	-2	8	0	8	8	1	7	<b>3.26E-04</b>	6	0.76	200		
7015. 8407	-6	6	1	5	7	2	6	<b>2.07E-03</b>	6	2.93	200	7035. 5045	3	12	3	10	12	3	9	<b>2.80E-06</b>	5	0.98	101		
7015. 91986	-5	8	0	8	7	0	7	8.27E-03	5	1.01	021	7035. 6350	<b>17</b>	8	4	4	8	5	3	<b>2.95E-05</b>	2	0.44	200		
7015. 96473	-13	8	1	8	7	<b>1</b>	7	<b>2.64E-03</b>	4	0.95	021	7036. 0307	17	7	5	3	7	4	4	<b>1.39E-05</b>	10	1.24	120		
7016. 1290	-1	3	8	6	3	8	6	<b>7.57E-05</b>	8	1.05	021	7036. 1787	-18	6	3	3	6	0	6	<b>1.40E-05</b>	7	4.00	120		
7016. 18197	5	8	6	2	8	6	3	<b>2.22E-04</b>	3	1.02	021	7036. 2232	12	7	3	5	6	2	4	<b>7.80E-05</b>	10	1.94	120		
<b>7016. 6447</b>	-30	12	2	10	12	4	9	<b>7.50E-06</b>	8	0.47	101	7036. 2489	16	9	4	5	9	5	4	4.10E-05	5	0.54	200		
7016. 8661	-39	5	2	3	<b>4</b>	<b>1</b>	<b>4</b>	<b>2.01E-06</b>	6	0.010	120	7036. 303	-671	8	3	6	8	1	7	<b>5.79E-06</b>	15	0.077	021		
7017. 2132	2	7	7	6	2	7	6	<b>7.35E-04</b>	4	1.11	021	7036. 51436	-4	5	3	3	4	3	2	<b>8.76E-03</b>	4	0.81	021		
7017. 225	316	7	6	1	7	6	2	<b>2.45E-04</b>	4	1.11	021	7036. 7587	17	7	4	3	7	5	2	<b>1.82E-04</b>	3	0.41	200		
7017. 4994	59	8	5	4	9	3	7	<b>1.75E-05</b>	15	62.46	021	7037. 318	<b>-34</b>	6	5	1	6	4	2	<b>3.70E-05</b>	10	2.14	120		
7017. 92642	5	4	0	4	5	2	3	<b>2.35E-03</b>	3	0.60	101	7037. 5173	0	10	4	6	10	5	5	6.20E-06	3	0.74	200		
*7017. 9542	-2	2	6	6	0	6	1	<b>2.53E-03</b>	3	1.04	021	7038. 3441	48	6	5	2	6	4	3	<b>1.12E-04</b>	8	2.10	120		
7018. 1270	3	1	1	2	9	1	1	3	8	2.10E-05	10	0.40	200	7038. 3956	-12	6	4	3	6	5	2	<b>3.30E-04</b>	10	0.42	200
7018. 82919	-4	8	2	7	9	3	6	<b>2.12E-04</b>	8	230.5	002	7038. 425	-32	5	2	4	5	4	1	<b>5.00E-04</b>	15	0.98	101		
*7018. 9555	-335	6	6	1	7	7	0	8.10E-06	3	8.01	002	7038. 4368	-53	6	4	2	7	4	3	<b>1.21E-02</b>	4	0.75	101		
7019. 57380	3	5	3	3	5	1	4	<b>4.27E-04</b>	3	0.57	0.91	021	7038. 9383	-22	9	1	8	9	2	7	<b>3.30E-04</b>	4	0.56	200	
7019. 6639	-8	6	1	6	6	3	3	1.10E-04	10	1.41	101	7039. 15838	-7	5	3	2	4	3	1	<b>2.81E-03</b>	4	0.79	021		
7020. 30642	-2	6	3	4	6	1	5	<b>1.30E-04</b>	6	0.58	021	7039. 2800	30	6	3	4	7	2	5	<b>2.13E-03</b>	10	2.19	200		
7021. 2060	2	8	9	2	7	9	2	<b>2.08E-05</b>	3	0.78	021	7039. 287	-40	6	4	2	6	5	1	1.10E-04	15	0.44	200		
7021. 8114	-2	7	0	7	8	1	8	<b>7.62E-03</b>	3	2.70	200	7039. 55546	-5	6	4	3	7	4	4	<b>2.91E-03</b>	6	0.53	101		
7022. 08060	-7	7	1	7	8	0	8	<b>2.53E-03</b>	3	2.65	200	7039. 9927	15	5	5	0	5	4	1	<b>1.79E-04</b>	10	3.14	120		
7022. 47170	3	3	1	3	4	2	2	<b>2.17E-03</b>	3	1.43	200	7040. 0089	26	2	1	2	3	3	1	<b>1.88E-03</b>	10	4.68	101		
7022. 709	-9	8	1	7	9	1	8	<b>1.20E-02</b>	10	0.85	101	7040. 2153	8	5	5	1	5	4	2	<b>4.30E-05</b>	7	2.25	120		
7022. 721	-2	3	3	2	1	4	3	<b>1.62E-02</b>	10	1.78	200	7040. 4483	27	9	5	4	10	4	7	<b>1.01E-04</b>	4	22.88	200		
7022. 728	-46	8	2	7	9	2	8	<b>3.60E-03</b>	15	0.77	101	7041. 513	-233	10	1	<b>10</b>	9	1	9	<b>6.75E-04</b>	6	1.03	021		
7022. 8947	23	4	3	2	4	1	3	<b>1.00E-04</b>	9	0.54	021	7041. 5290	-69	10	0	10	9	0	9	2.03E-03	6	1.03	021		
7023. 181	3	0	8	1	7	8	1	<b>1.50E-04</b>	15	0.65	021	7042. 0015	134	8	1	8	8	4	5	<b>1.99E-05</b>	15		002		
7023. 2082	-1	6	5	2	3	4	2	<b>3.84E-03</b>	8	0.61	021	7042. 18060	2	6	3	3	7	3	4	<b>2.16E-02</b>	2	0.71	101		
7023. 32345	22	9	0	9	10	0	10	<b>3.50E-03</b>	3	0.74	101	7042. 210	-19	5	4	2	5	5	1	1.10E-04	15	0.39	200		
7023. 439	-4	<b>6</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>1.00E-04</b>	15	0.71	101	7042. 41712	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>3.33E-04</b>	3	0.40	200		
7023. 4580	-39	<b>9</b>	<b>1</b>	<b>9</b>	<b>10</b>	<b>1</b>	<b>10</b>	1.10E-02	4	<b>0.77</b>	101	7043. 2921	-34	9	1	8	9	1	9	<b>1.91E-05</b>	5	0.58	021		
7024. 3992	1	7	1	1	1	1	0	1	1	3	9	<b>2.18E-05</b>	3	0	70										
7025. 04865	1	7	2	5	8	2	6	<b>4.09E-03</b>	2	0.63	101	7043. 6688	24	8	4	5	9	5	4	<b>1.50E-05</b>	15	13.01	002		
7025. 38327	5	6	1	5	5	1	4	<b>1.23E-02</b>	2	0.80	021	7044. 00164	-2	2	2	1	3	3	0	<b>2.35E-02</b>	2	1.49	200		
7025. 6001	31	9	2	8	9	3	7	<b>9.28E-05</b>	15	0.61	200	7044. 2687	37	8	5	4	9	4	5	<b>1.85E-04</b>	4	7.17	200		
7025. 9710	<b>1</b>	<b>7</b>	<b>3</b>	<b>5</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>2.59E-04</b>	6	0.58	021	7044. 5206	-31	3	3	1	2	0	2	<b>9.70E-06</b>	4	3.13	120		
7026. 01512	-5	0	1	0	3	7	1	<b>3.44E-03</b>	3	0.74	021	7044. 8178	-53	6	1	5	7	4	4	<b>6.40E-04</b>	<b>15</b>		002		
7026. 0963	-5	0	1	0	3	7	1	<b>9.91E-03</b>	7	0.61	101	7045. 22680	0	6	0	6	7	1	7	<b>4.41E-03</b>	3	2.43	200		
7026. 52932	-4	7	3	5	8	3	6	<b>9.70E-05</b>	<b>10</b>	55.97	021	7045. 3860	-15	8	3	6	7	2	5	<b>8.00E-05</b>	10	1.45	120		
7026. 9974	-6	6	5	1	7	3	4	<b>9.70E-05</b>	<b>10</b>	55.97	021	7045. 43896	3	7	2	6	6	2	5	7.10E-03	5	0.85	021		
7027. 3621	<b>1</b>	5	4	1	6	1	6	6.00E-06	15		120	7045. 84393	-8	6	1	6	7	0	7	<b>1.29E-02</b>	3	2.32	200		
7027. 478	-372	4	4	0	5	1	5	<b>9.71E-07</b>	15		120	7046. 40350	0	2	2	0	3	3	1	<b>6.06E-03</b>	2				

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band	
*7051	.8462	476	9	7	3	9	7	2	9.00E-05	2	1.64	021	7075.	3148	-29	8	4	4	9	3	7	1.28E-04	4	40.33	200	
7051.	92555	-1	6	5	2	7	3	5	3.04E-03	65729.		021	7075.	4116	10	8	6	3	9	5	4	1.03E-04	5	18.38	200	
* 7053.	0970	5	9	8	7	1	8	7	2	2.68E-04	2	1.45	021	7076.	67080	14	5	1	4	6	4	3	5.09E-04	2		002
7053.	1392	-15	11	1	11	10	1	10	8.00E-04	3	0.97	021	7078.	01167	-5	8	6	2	9	5	5	3.47E-05	2	20.58	200	
7053.	1668	-58	11	0	11	10	0	10	2.70E-04	5	0.99	021	7078.	5345	-53	5	3	3	5	4	2	7.99E-05	7	0.085	200	
7053.	516	251	13	4	10	13	4	9	1.21E-06	15	0.94	101	7078.	6104	23	4	4	0	4	1	3	2.00E-06	15	4.95	120	
7053.	76398	-1	6	3	4	7	3	5	4.12E-03	7	0.37	101	7078.	8656	-4	9	2	7	9	3	6	3.25E-04	15	0.62	200	
' 7053.	9379	88	7	7	1	7	7	0	7.56E-04	2	1.35	021	7079.	17615	-4	6	1	6	6	2	5	3.99E-03	3	0.84	200	
7054.	2329	2	9	6	2	4	7	2	5	3.54E-02	2	0.79	101	7079.	5917	-1	10	1	9	10	4	6	5.50E-06	10		002
7055.	8605	5	5	1	5	5	3	2	8.24E-04	3	1.30	0.92	101	7079.	7883	-20	7	4	3	8	5	4	4.10E-05	10	5.59	002
7056.	3397	39	8	3	6	9	4	5	1.41E-04	7		002	7079.	85511	3	8	2	6	8	4	5	4.21E-04	3	0.58	101	
7056.	3841	2	2	1	1	3	3	0	2.80E-04	10	0.14	101	7079.	91761	-2	6	2	4	6	4	3	1.55E-04	8	0.15	101	
7056.	53625	8	7	1	7	7	2	6	6.10E-04	3	0.72	0.96	200	7080.	0192	-9	9	4	6	9	2	7	8.90E-05	10	1.92	021
7057.	3354	3	5	5	0	6	5	1	1.85E-03	5	0.73	101	7080.	093	-9	5	3	2	4	4	1	1.40E-03	10	0.54	200	
<b>7057.</b>	<b>36789</b>	<b>-13</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>5.90E-03</b>	<b>5</b>	<b>0.78</b>	101	7080.	097	26	4	3	2	4	4	1	1.40E-03	10	0.52	200	
7057.	4699	-24	9	0	9	9	2	8	2.38E-04	3	0.76	101	7080.	216	-40	7	2	5	7	4	4	1.00E-04	15	0.30	101	
7057.	54153	9	7	3	5	7	4	4	3.93	E-(14	8	0.99	200	7080.	236	-346	7	2	6	8	3	5	3.79E-05	15		002
7057.	777	-45	10	2	8	10	4	7	1.05E-04	10	0.62	101	7080.	57437	-6	5	3	3	6	3	4	4.16E-02	2	0.70	101	
7058.	40349	3	5	2	4	6	1	5	1.41E-03	2	0.97	200	7080.	612	-14	9	1	8	8	1	7	6.00E-04	15	0.87	021	
7058.	7709	36	10	2	9	10	2	8	6.53E-05	3	1.16	101	7080.	7S69	12	4	3	1	4	4	0	4.70E-04	10	0.54	200	
7058.	92887	12	9	1	9	9	1	8	6.30E-04	5	1.11	101	7081.	07837	7	9	2	8	2	7	1	1.87E-03	4	0.89	021	
7059.	24401	-5	6	3	4	5	3	3	2.22E-03	5	0.81	021	7081.	1309	-4	6	3	3	6	4	2	4.18E-04	3	0.74	200	
7059.	6749	63	3	3	0	3	1	3	2.08E-05	5	0.62	021	7081.	20637	2	7	3	5	6	3	4	4	0.01E-03	3	0.80	021
7061.	1771	-22	6	0	6	7	3	5	5.00E-04	6		002	7081.	279	-1	9	0	9	8	3	6	1.00E-05	15	0.90	200	
7061.	183	-23	6	5	2	7	6	1	4.92E-05	10	12.17	002	7081.	3470	-11	9	3	6	9	4	5	2.02E-04	4	0.94	200	
7061.	2479	35	6	5	1	7	6	2	1.64E-05	4	12.09	002	7082.	25205	-3	8	0	8	8	2	7	1.63E-03	3	0.72	101	
7061.	76013	8	7	0	7	7	1	6	1.96E-03	2	0.70	200	7082.	39291	-1	4	1	4	4	3	1	4.91E-04	2	1.45	101	
7061.	9162	-4	10	1	9	10	1	10	2.15E-05	7	0.57	021	7082.	5086	75	14	0	14	13	0	13	4.75E-05	5	1.07	021	
7062.	0771	-39	5	5	0	6	3	3	2.75E-05	5	80.95	021	7082.	517	-400	8	4	5	8	2	6	3.21E-05	15	1.13	021	
7062.	581	-355	12	0	12	11	2	9	1.25E-06	15	3.70	101	7083.	2301	10	9	8	2	9	8	1	8.70E-05	2	2.87	021	
7063.	12939	6	8	1	7	7	1	6	3.92E-03	3	0.88	021	7083.	3370	11	7	3	4	7	4	3	8.15E-04	2	0.89	200	
7063.	5670	24	10	2	9	10	0	10	6.35E-06	15	0.39	021	7083.	5492	11	7	5	3	8	4	4	1.42E-04	5	10.28	200	
7063.	68236	-3	8	2	7	7	2	6	1.27E-03	3	0.86	021	7084.	32447	3	6	2	5	6	3	4	3.66E-03	3	0.90	200	
7064.	0127	14	12	1	12	11	1	11	1.03E-04	4	0.99	021	7084.	42833	0	8	3	5	7	3	4	4.14E-04	8	0.93	200	
7064.	0836	-4	12	0	12	11	0	11	3.15E-04	3	1.02	021	7084.	63788	1	6	4	3	7	3	4	2.86E-03	3	11.56	200	
7064.	129	-130	9	7	3	10	6	4	6.75E-06	15		200	7085.	0082	23	8	1	8	8	1	7	5.53E-04	5	1.12	101	
7064.	25760	7	4	2	2	4	4	1	1.15E-03	4	2.86	101	7085.	3308	28	7	4	3	7	1	6	4.70E-05	8	8.28	120	
7064.	9645	-22	6	3	4	6	4	3	2.17E-03	6	1.07	200	7085.	87598	-6	5	3	3	6	2	4	1.33E-02	332.12		200	
7064.	9890	-41	6	3	3	5	3	2	7.00E-03	3	0.87	021	7086.	4057	-37	7	1	7	7	4	4	3.05E-05	8		002	
7065.	53176	-8	2	1	2	3	2	1	1.42E-02	6	1.51	200	7086.	90665	-5	2	1	1	3	2	2	8.20E-03	3	1.81	002	
7065.	6969	-14	8	5	3	9	4	6	8.25E-05	10	17.60	200	7087.	6453	23	5	5	0	6	6	1	2.55E-05	2	2.36	002	
7066.	50860	-5	3	0	3	4	2	2	1.80E-03	3	0.62	101	7088.	8002	1	6	0	6	6	1	5	1.40E-03	7	0.75	200	
7067.	14502	-3	5	2	3	5	4	2	8.30E-04	7	3.04	101	7088.	97365	1	4	0	4	5	1	5	9.80E-03	5	2.14	200	
7067.	41177	-9	9	4	5	10	3	8	9.60E-05	2	118.8	200	7089.	3511	86	7	4	4	7	2	5	1.72E-04	4	1.42	021	
7067.	6945	-14	5	0	5	6	1	6	2.16E-02	3	2.34	200	7089.	70639	10	9	2	8	9	2	7	4.94E-04	3	0.92	101	
7067.	7685	-36	7	2	6	7	3	5	6.72E-04	5	0.89	200	7089.	7547	20	8	7	2	9	6	3	2.60E-05	15	24.33	200	
7068.	26594	4	5	4	2	4	4	1	3.03E-03	3	0.78	021	7089.	89596	5	4	2	3	5	1	4	3.10E-03	3	0.57	200	
7068.	39223	-8	5	4	1	4	4	0	9.95E-04	4	0.77	021	7090.	344	-104	7	4	4	6	6	1	1.58E-06	10	0.73	101	
7068.	5244	11	5	4	1	6	4	2	6.37E-03	6	0.73	101	7090.	47810	3	7	4	3	8	3	6	1.09E-03	2	23.76	200	
7068.	6112	-3	3	1	2	4	2	3	2.05E-02	7	2.16	200	7090.	6670	6	5	4	2	4	3	1	2.81E-05	15	0.17	120	
7068.	658	8	4	2	2	3	0	3	4.00E-04	15	0.32	021	7090.	99784	-11	7	3	4	6	3	3	1.27E-03	3	0.79	021	
7068.	676	-6	6	4	4	1	3	3	0	3.70E-04	15	0.43	120	7091.	398	-534	10	5	5	9	7	2	5.63E-07	15	1.47	101
7068.	8880	16	4	4	0	3	3	1	8.35E-05	6	0.29	120	7091.	5250	0	12	3	10	13	2	11	3.60E-06	15	3.88	002	
7069.	09470	10	5	4	2																					

Table 4. continued

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band		
7097.7137	3	10	2	9	9	2	8	2.60E-04	4	0.87	021	7123.83456	3	5	2	3	5	3	2	6.72E-03	2	1.10	200		
7098.09422	0	7	1	6	7	2	5	2.55E-03	3	0.70	200	7124.640	7	0	8	3	5	9	4	6	1.27E-05	15	2.38	002	
7099.1936	16	6	4	3	6	2	4	3.37E-05	5	0.76	021	7125.3150	-60	3	1	2	4	4	1	1.00E-06	15		002		
7099.24885	-37	7	3	5	8	4	4	5.09E-05	2	79.87	002	7126.01870	-	1	6	1	5	6	3	4	4.88E-03	5	0.73	101	
7099.70437	-8	5	1	5	5	2	4	2.30E-03	4	0.88	200	7126.0954	11	4	3	1	3	1	2	1.43E-04	5	0.24	021		
7100.64374	0	1	1	1	2	2	0	7.84E-03	3	1.47	200	7126.3415	1	6	7	4	4	6	3	3	5.46E-06	15	0.16	120	
7100.6752	-10	8	2	6	8	3	5	3.40E-04	4	0.80	200	7126.5470	21	6	5	2	5	5	1	2.75E-04	10	0.68	021		
7100.82983	2	3	1	3	3	3	0	1.48E-03	3	1.86	101	7127.03490	5	2	0	2	3	1	3	1.42E-02	4	2.11	200		
7101.0281	-21	8	0	8	7	3	5	7.78E-05	8	9.26	200	7127.27780	3	6	5	1	5	5	0	1.08E-03	6	0.88	021		
7102.0524	5	6	4	3	7	5	2	8.90E-04	4	7.05	002	7127.599	4	6	1	2	7	5	1	3.00E-06	15	0.64	101		
7102.142	939	8	4	4	8	1	7	7.00E-06	15	6.27	120	7127.758	1	9	6	0	6	5	3	1.00E-05	15	0.42	200		
7102.5057	-10	8	3	6	7	3	5	6.31E-04	6	0.73	021	7127.797	260	9	1	8	9	4	5	1.47E-05	15	18.58	002		
7102.9667	-22	4	1	3	5	4	2	6.05E-05	3		002	7128.0151	-1	6	0	6	6	2	5	7.58E-03	2	0.71	101		
7103.8297	-14	6	4	2	7	5	3	3.00E-05	4	6.14	002	7128.3856	38	6	3	4	5	5	1	9.56E-05	622	.16	101		
7104.196	41	10	3	8	10	3	7	4.1	OE-05	15	0.86	101	7128.959	1	4	1	2	1	1	1	8.75E-05	10	2.21	021	
7104.541	-8	9	1	9	8	2	6	1.00E-05	15	1.86	200	7128.964	-55	12	1	11	11	1	10	2.63E-04	10	2.27	021		
7104.61867	10	4	3	1	5	3	2	6.30E-02	4	0.76	101	7128.974	1	8	7	3	4	8	2	4.20E-04	1083	.85	200		
7105.7614	40	2	0	2	3	2	1	9.00E-03	10	0.78	101	7128.987	-	3	6	5	4	2	6	5	3.80E-05	10	4.11	002	
7105.85461	-3	3	4	2	2	5	2	3	1.	01E-01	6	0.68	101	7129.254	-286	4	4	1	4	1	4	5.45E-06	15	13.32	120
7105.9395	-9	7	0	7	7	2	6	1.20E-03	10	0.68	101	7129.30302	3	6	3	3	7	2	6	6.93E-04	2	39.64	200		
7106.4893	5	7	6	2	8	5	3	4.90E-05	6	17.97	200	7129.3711	-	6	5	4	1	6	5	2	1.14E-04	4	3.96	002	
7106.777	18	3	3	0	2	1	1	5.00E-05	15	0.53	021	7129.877	-	1	9	7	9	2	9	8	1.395E-05	3		002	
7106.83653	-1	4	2	3	4	3	2	7.90E-03	5	1.03	200	7130.3799	1	4	4	0	4	3	1	2.90E-06	10	0.24	200		
7107.09292	2	1	1	0	2	2	1	2.60E-02	2	1.44	200	7131.900	762	9	1	9	8	3	6	2.25E-05	15	1.64	101		
7107.2712	43	7	6	1	8	5	4	1.56E-04	3	19.66	200	7131.94975	-5	3	1	3	3	2	2	4.58E-03	3	1.06	200		
7107.84236	6	4	3	2	5	3	3	2.12E-02	5	0.75	101	7132.4303	1	8	5	0	5	4	3	9.39E-06	15	0.13	200		
7108.7146	-3	3	0	3	4	1	4	4.20E-02	4	2.36	200	7132.714	1	3	6	9	2	7	9	5	4.71E-06	15		002	
7109.8310	98	5	4	1	6	0	6	5.1	OE-05	7	0.21	021	7132.8391	2	2	3	1	2	3	3	1.389E-04	2	0.54	101	
7109.8633	29	5	4	2	5	2	3	8.23E-05	4	0.73	021	7132.931	8	8	4	4	9	2	7	4.00E-05	15	0.68	101		
7110.311	-221	6	4	3	5	3	2	1.20E-06	15	0.005	120	7133.00496	5	5	1	4	5	3	3	1.77E-03	2	0.72	101		
7110.5429	4	6	6	0	6	5	1	1.70E-05	7	3.65	120	7133.9024	-	9	3	3	0	4	3	1	2.16E-02	4	0.79	101	
7110.5764	0	6	6	1	6	5	2	5.16E-05	3	3.70	120	7134.69523	0	4	1	3	4	3	2	3.50E-03	4	0.66	101		
7111.1625	-2	5	0	5	6	3	4	1.18E-04	4	232.1	002	7134.98148	3	3	3	1	4	3	2	6.50E-02	10	0.79	101		
7111.22590	9	6	4	2	7	3	5	7.12E-04	3	17.62	200	7135.332	-478	11	7	4	11	7	5	3.00E-06	15	0.41	101		
7111.44618	10	7	1	7	7	1	6	3.90E-03	4	1.09	101	7135.51476	2	5	4	1	6	3	4	2.98E-03	3	15.43	200		
7111.634	108	9	3	6	10	4	7	9.40E-06	10	1.24	002	7135.549	27	8	1	8	7	2	5	3.00E-05	15	0.64	200		
7112.150	372	10	2	8	10	5	5	9.00E-07	15		002	7135.573	-	9	6	3	4	7	4	3.20E-04	4	14.38	002		
7113.18803	8	3	2	2	3	3	1	2.20E-03	2	1.00	200	7135.626	-	3	0	1	1	7	5	1	1.19E-05	15	0.54	101	
7113.2916	-14	7	1	6	7	3	5	9.53E-04	3	0.66	101	7135.8180	-	4	7	8	3	5	9	2	4.50E-05	15		200	
7113.4842	-5	11	1	10	10	1	9	1.02E-04	3	0.91	021	7135.8393	38	6	2	5	7	3	4	1.32E-04	783	.57	002		
7113.65608	-7	11	2	10	10	2	9	3.20E-04	4	0.93	021	7135.9618	-1	6	6	1	7	5	2	1.40E-04	6	18.70	200		
7115.0351	-16	7	4	4	6	4	3	2.19E-03	2	0.83	021	7136.09355	12	3	2	1	4	2	2	5.1	0E-02	4	0.78	101	
7115.31227	4	7	2	5	7	3	4	2.46E-03	2	0.	0%	200	7136.83621	11	1	0	1	2	2	0	1.56E-03	2	0.70	101	
7115.48949	0	5	0	5	5	1	4	8.12E-03	3	0.79	200	7136.8739	-	1	6	9	3	7	9	3	6.00E-04	10	1.09	101	
7116.06668	-13	8	3	5	7	3	4	1.80E-03	4	0.76	021	7136.881	-	7	3	9	3	6	8	3	4.00E-05	15	0.12	021	
7116.19850	2	3	1	3	4	0	4	1.07E-02	4	1.75	200	7137.5229	-4	5	3	2	6	2	5	5.58E-03	5	24.41	200		
7116.4763	-4	7	4	3	6	4	2	.17E-04	2	0.82	021	7137.6888	4	8	4	5	7	4	4	3.96E-04	3	0.83	021		
7116.935	-1	7	5	2	3	4	0	4.200E-04	15	0.86	021	7138.30717	4	6	1	6	6	1	5	2.65E-03	3	1.01	101		
7116.995	-41	7	0	7	6	3	4	3.00E-05	15	0.62	200	7138.4193	42	7	3	4	8	4	5	8.1	0E-05	7	2.70	002	
7117.24941	-7	5	0	5	6	0	6	5.20E-02	4	0.76	101	7138.4977	7	8	4	5	7	3	4	9.26E-05	15	2.52	120		
7117.42024	4	5	1	5	6	1	6	1.61E-01	3	0.79	101	7139.08908	-5	4	0	4	5	0	5	2.40E-01	3	0.80	101		
7117.4805	-3	4	1	4	4	2	3	1.25E-02	7	1.13	200	7139.4877	12	1	0	2	8	9	2	4.1	0E-04	4	0.85	021	
7117.75461	1	4	1	3	5	1	4	1.73E-01	4	0.86	101	7139.60990	-5	4	1	4	5	1	5	7.75E-02	4	0.78	101		
7118.08871	15	6	5	2	7	4	3	6.09E-04	3	11.70	200	7140.10210	1	4	0	4	4	1	3	5.40E-03	3	0.95	200		
7118.6795	4	9	2	7	8	2	6	3.50E-04	2	0.81	021	7140.3180	17	5	4	1	5	2	4	3.20E-05	4	1.16	021		
7119.3760	12	4	4	1	4	2	2	1.32E-05	6	0.68	021	7140.7707	4	8	4	4	7	4	3	1.15E-03	8	0.81</			

**Table 4. continued**

observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%	Xs R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band			
●7146.4898	0	12	1	12	13	0	13	<b>1.53E-05</b>	3	0.66	002		7169.095	-184	1	0	5	6	1	1	2	9			200			
7146.5918	-1	9	4	5	8	6	2	<b>1.98E-06</b>	3	1.59	101		7169.2187	3	1	0	3	7	9	3	6	<b>2.30E-04</b>	6	0.670.	91	021		
7147.5043	37	5	3	2	4	1	3	<b>3.68E-05</b>	10	<b>0.14</b>	021		7169.4852	19	1	0	2	9	1	1	1	0	<b>2.20E-05</b>	10	0.69		002	
7147.7373	1	5	0	5	5	2	4	4.70E-03	4	0.77	101		7169.858	-6	7	0	7	7	3	4		<b>1.04E-03</b>	3	482.	7	002		
7147.9486	15	9	3	6	10	2	9	2.97E-05	5		200		7169.9663	4	6	2	4	5	0	5		<b>2.48E-05</b>	15	0.081		021		
*7148.733	236	10	8	2	10	8	3	<b>1.91E-05</b>	3	0.31	101		7170.253	-32	1	0	5	6	1	0	5	5	<b>6.00E-05</b>	15	0.87		101	
7149.18470	0	5	5	1	6	4	2	<b>1.76E-04</b>	3	12.70	200		7170.27771	-1	2	2	1	3	2	2		<b>4.72E-02</b>	3	0.78		101		
7149.381	3	10	3	8	11	2	9	2.07E-06	7	0.28	002		7170.9088	10	1	0	1	9	1	1	2	1	<b>1.50E-05</b>	15	1.38		002	
7149.4754	-27	12	6	6	12	6	7	<b>5.20E-06</b>	10	0.68	101		7171.1045	-32	6	2	5	5	4	2		<b>4.67E-05</b>	2	1.35	<b>0.86</b>	101		
7149.80161	51	6	4	2	6	2	5	<b>2.97E-05</b>	5	0.42	021		7171.8275	354	1	1	0	1	1	1	2	1	1	<b>4.40E-05</b>	3	0.67		002
*7150.0678	0	10	10	0	10	10	1	<b>9.85E-05</b>	3	8.77	101		7172.073	41	7	3	4	6	5	1		<b>5.00E-06</b>	15	0.52		101		
7150.26540	11	5	5	0	6	4	3	<b>5.50E-04</b>	2	13.78	200		<b>7172.69912</b>	6	3	3	0	4	2	3		<b>7.75E-03</b>	3	15.79		200		
7150.4352	-20	9	7	2	9	7	3	<b>8.05E-05</b>	2	0.69	101		7173.7791	-200	8	6	2	8	6	3		2.10E-03	5	0.77		101		
7150.471	2	6	9	7	3	9	7	<b>2.40E-04</b>	2	0.69	101		7173.9601	-4	8	5	3	7	5	2		<b>5.96E-04</b>	3	0.89		021		
7150.51216	9	7	2	6	7	2	5	4.02E-03	4	0.90	101		7174.0833	-15	8	5	4	7	5	3		<b>2.00E-04</b>	10	0.90		021		
7150.7538	-11	7	5	2	6	5	1	<b>3.12E-04</b>	2	0.85	021		7174.125	-281	5	3	2	6	4	3		<b>5.00E-05</b>	15	0.59		002		
7151.08383	9	7	5	3	6	5	2	<b>8.30E-04</b>	4	0.75	021		7174.13733	-7	2	0	2	2	1	1		1.32E-02	4	1.32		200		
7151.2041	4	8	1	8	7	3	5	<b>1.55E-05</b>	3	1.23	101		7174.3440	-1	6	3	3	5	1	4		<b>5.17E-05</b>	15	0.082		021		
7151.9928	1	4	1	3	4	2	2	<b>7.08E-03</b>	3	1.13	200		7174.672	-320	9	3	6	9	0	9		<b>1.30E-06</b>	15	3.32		120		
*7152.047	43	9	8	2	9	8	1	<b>1.00E-04</b>	4	0.43	101		7175.3700	4	8	2	7	7	4	4		<b>1.82E-05</b>	5	0.95		101		
7152.3100	-2	11	6	6	11	6	5	<b>2.45E-05</b>	6	0.67	101		7175.49251	11	9	4	6	9	4	5		<b>6.44E-04</b>	3	0.83	0.96	101		
7152.3859	30	10	4	7	10	4	6	<b>4.57E-05</b>	3	0.78	101		7175.98675	-3	3	0	3	3	3	2		6.10E-03	3	0.78		101		
7152.68236	6	4	3	1	5	2	4	3.15E-03	3	19.19	200		7176.1969	-19	7	2	6	6	4	3		1.10E-04	2	1.16		101		
*7154.3542	0	8	0	8	8	1	3	.60E-04	2	0.46	101		7176.333	-219	10	4	6	9	6	3		<b>4.17E-06</b>	7	1.49		101		
7154.5737	1	6	3	3	7	4	4	<b>5.58E-05</b>	8	3.23	002		7177.2446	-1	5	6	1	6	5	3		<b>7.95E-05</b>	3	1.46		101		
7154.597	147	11	6	5	11	6	6	<b>7.50E-06</b>	10	0.61	101		7177.815	9	7	3	4	8	1	7		<b>1.00E-05</b>	15	0.20		101		
7154.719	295	8	5	3	9	1	8	<b>1.48E-06</b>	15		021		7178.0535	1	0	1	2	2	1	0		<b>4.88E-05</b>	4	0.94		021		
7154.944	12	9	0	9	8	2	6	<b>8.00E-06</b>	10	1.48	101		7178.44593	10	6	2	5	6	2	4		<b>3.28E-03</b>	2	0.80		101		
7155.3695	0	4	4	1	5	5	0	<b>6.83E-05</b>	2	1.31	002		7179.18711	-1	4	2	2	5	1	5		<b>1.31E-03</b>	2	33.23		200		
7155.4146	1	2	4	4	0	5	5	<b>2.35E-05</b>	5	1.35	002		7179.7519	-27	7	6	2	7	6	1		<b>5.80E-03</b>	3	0.70		101		
7155.4545	-36	11	5	7	11	5	6	<b>3.70E-05</b>	10	<b>0.84</b>	101		7180.323	-1	6	6	3	3	7	1		3.00E-04	15	0.64		101		
7155.8540	-16	10	2	9	9	4	6	<b>9.15E-06</b>	2	3.03	101		<b>7180.39972</b>	-3	3	2	<b>1</b>	<b>4</b>	<b>1</b>	<b>4</b>		<b>1.30E-02</b>	3	29.13		200		
<b>7155.899</b>	-58	7	4	3	8	2	6	<b>2.90E-06</b>	15	0.072	101		7180.61297	0	9	5	5	9	5	4		<b>6.47E-04</b>	15	0.77		101		
7156.0545	5	2	2	1	3	1	2	<b>9.40E-05</b>	2	0.034	200		7181.15570	0	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>		<b>3.60E-01</b>	4	0.82		101		
7156.1136	55	4	3	2	3	1	3	<b>1.75E-05</b>	5	0.19	021		<b>7182.155</b>	<b>-68</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>4</b>		<b>3.67E-04</b>	<b>15</b>	1.74		101		
7156.356	424	4	0	4	5	3	3	<b>1.08E-05</b>	15	40.33	002		<b>7182.2091</b>	<b>14</b>	1	0	1	1	1	0		<b>3.81E-02</b>	4	1.44		200		
7156.561	-38	8	3	6	7	5	3	<b>2.03E-05</b>	15	2.68	101		7182.4516	46	8	3	5	9	1	8		<b>3.00E-05</b>	15	0.77		101		
7156.7235	17	4	4	1	5	3	2	2.43E-03	5	<b>12.74</b>	200		7182.94955	0	2	1	2	3	1	3		<b>9.23E-02</b>	4	0.70		101		
7156.8172	0	3	1	2	3	2	<b>1</b>	<b>2.60E-02</b>	4	1.31	200		7183.0155	-23	2	0	2	2	2	1		<b>1.03E-02</b>	5	0.90		101		
7157.04422	-2	2	1	1	2	2	0	<b>5.98E-03</b>	5	1.28	200		7183.219	55	8	2	6	9	3	7		<b>1.00E-05</b>	15	0.54		002		
7157.17297	6	3	3	<b>1</b>	4	2	2	3.33E-03	3	<b>13.54</b>	200		7183.2725	9	1	0	5	5	1	0		<b>2.00E-04</b>	15	0.94		101		
*7157.7388	-36	8	7	1	8	7	2	<b>1.09E-03</b>	3	0.69	101		7183.6858	1	0	5	2	4	6	3		7.62E-05	3	14.43		002		
*7157.9358	0	14	1	13	13	1	12	<b>4.40E-06</b>	4	0.31	021		7184.1010	11	9	6	3	9	7	2		<b>3.25E-05</b>	3			002		
7158.1290	-31	5	1	5	6	2	4	<b>3.60E-05</b>	883.	44	002		7184.7270	-22	6	5	2	5	4	<b>1</b>		<b>4.15E-05</b>	3	0.20		120		
7159.0851	29	11	2	9	10	2	8	<b>4.88E-05</b>	2	0.89	021		7184.918	-1	8	6	4	3	5	5		<b>4.00E-05</b>	15	0.61		200		
7159.2325	2	2	9	4	6	8	4	<b>.89E-04</b>	4	0.90	021		7184.9840	-1	2	6	5	1	5	4		<b>1.41E-05</b>	3	0.21		120		
7160.1874	18	3	0	3	3	1	2	<b>3.12E-02</b>	5	<b>1.23</b>	200		7185.394	-2	8	5	2	3	6	1		<b>1.08E-03</b>	1067.	22		200		
7160.2358	34	3	0	3	4	0	4	<b>1.03E-01</b>	5	0.79	101		7185.400	-27	9	5	4	9	5	5		<b>2.62E-04</b>	15	0.93		101		
7160.6594	58	5	2	4	4	4	4	<b>1.950E-05</b>	10	<b>1.61</b>	101		7185.4424	-8	8	0	8	7	2		<b>1.04E-04</b>	<b>15</b>	1.86		101			
7160.8118	-16	10	6	4	10	6	5	<b>1.11E-04</b>	4	0.70	101		7185.577	5	6	1												

Table 4. continued

observed position	o-c	upper			lower			observed strength	$\chi^2_s$	$R_1^a$	$R_2^b$	band	observed position	o-c	upper			lower			observed strength	$\chi^2_s$	$R_1^a$	$R_2^b$	band
		J	K <sub>a</sub>	K <sub>c</sub>	J	K <sub>a</sub>	K <sub>c</sub>								J	K <sub>a</sub>	K <sub>c</sub>	J	K <sub>a</sub>	K <sub>c</sub>					
7194.193	8	5	3	3	4	1	4	<b>2.50E-04</b>	15	0.98	021	7221.8290	6	3	3	0	4	4	1	<b>2.09E-04</b>	5	0.94	002		
7194.3960	26	9	1	8	10	2	9	<b>7.25E-05</b>	15	0.91	002	7222.6690	19	8	2	7	9	1	8	<b>1.32E-04</b>	4	0.83	002		
7194.46110	18	7	5	2	7	5	3	<b>2.44E-03</b>	4	0.81	101	7222.693	68	7	5	2	7	3	5	<b>2.12E-05</b>	15	2.88	021		
7194.5760	25	7	1	6	7	4	3	<b>9.00E-04</b>	15	1103.	002	7222.7806	15	6	4	3	7	1	6	<b>1.00E-04</b>	15	19.20	200		
7194.8052	0	1	1	0	2	1	1	<b>7.47E-02</b>	4	0.81	101	7223.020	297	4	4	0	3	2	1	<b>4.56E-05</b>	15	0.36	021		
7194.9623	38	4	3	2	<b>5</b>	<b>4</b>	<b>1</b>	<b>1.00E-04</b>	15	0.83	002	7223.0544	<b>14</b>	<b>5</b>	<b>1</b>	<b>4</b>	5	4	1	<b>1.80E-03</b>	10	0.02	002		
7195.4558	-34	3	0	3	4	3	2	<b>1.80E-05</b>	3	13.49	002	7223.11740	7	2	1	1	2	0	2	<b>1.57E-02</b>	5	1.88	200		
7196.63212	1	9	5	5	8	5	4	<b>3.07E-04</b>	5	0.95	021	7223.4918	<b>6</b>	4	2	3	5	3	2	<b>3.50E-04</b>	3	3.39	.002		
7196.6664	-14	10	0	10	11	11	11	<b>3.12E-05</b>	8	0.75	002	7223.531	<b>-8</b>	5	4	1	6	2	4	<b>2.00E-05</b>	15	0.44	101		
7196.6840	32	10	1	10	11	0	11	<b>9.50E-05</b>	3	0.76	002	7223.676	1	9	5	5	9	6	4	<b>4.50E-06</b>	7	0.02	002		
7196.8494	-1	8	9	5	4	8	5	<b>1.00E-04</b>	3	0.93	021	7223.888	179	8	4	5	7	5	2	<b>2.40E-05</b>	15	0.41	200		
7196.9602	3	4	3	1	5	4	2	<b>8.80E-05</b>	4	1.91	002	7224.0736	<b>31</b>	1	0	4	6	1	0	3	7	5.85E-05	3	2.92	200
7197.3260	11	7	5	3	7	3	4	<b>1.61E-04</b>	2	6.67	021	7224.4912	13	6	2	5	5	3	2	<b>2.01E-04</b>	2	0.24	0.5' 1	200	
7197.5505	-26	6	2	4	7	1	7	<b>1.20E-04</b>	3	180.6	200	7224.94728	<b>13</b>	4	<b>1</b>	3	4	4	0	<b>3.90E-04</b>	8	0.02	002		
7199.3252	1	3	6	5	2	6	5	<b>1</b>	<b>7.90E-03</b>	5	0.94	101	7225.157	-18	8	6	2	9	4	5	<b>1.00E-05</b>	15	5.11	101	
7199.3775	-10	6	5	1	6	5	2	<b>2.11E-02</b>	4	0.84	101	7226.02402	0	0	0	0	1	0	1	<b>2.13E-01</b>	3	0.83	101		
7199.6919	43	7	2	5	8	3	6	9.90E-05	8	0.95	002	7226.301	-23	6	2	4	5	4	1	<b>3.00E-04</b>	15	1.24	101		
7200.1338	1	6	5	1	5	4	2	<b>2.60E-05</b>	3	0.26	200	7226.382	-13	10	4	6	10	4	7	<b>1.00E-04</b>	15	0.48	101		
7200.5150	-2	6	5	3	3	4	4	<b>2.30E-06</b>	70	0.07	200	7227.017	-40	4	2	2	5	0	5	<b>1.25E-05</b>	4	0.010	101		
7201.3862	1	7	1	1	4	8	1	<b>0</b>	4	7	021	7227.0922	40	8	5	4	8	6	3	<b>3.60E-05</b>	10	<b>114.3</b>	002		
7201.6949	-33	8	3	5	7	5	2	<b>1.86E-05</b>	4	0.51	101	7227.2144	-4	9	5	4	9	6	3	<b>7.67E-06</b>	15	0.02	002		
7202.0873	-	4	3	1	3	2	2	<b>2.90E-04</b>	<b>4</b>	0.62	200	7227.5048	-36	7	3	5	6	4	2	<b>2.26E-05</b>	15	0.24	200		
7202.25589	-4	5	2	4	5	2	3	<b>2.82E-02</b>	6	0.85	101	7227.6798	12	8	5	3	8	3	6	0	0	0	0.21		
7202.326	-5	9	5	3	2	4	4	<b>1.50E-04</b>	15	0.64	200	7227.9678	-16	4	3	2	4	3	1	<b>4.68E-02</b>	5	0.90	101		
7202.90905	-14	1	0	1	2	0	2	<b>1.12E-01</b>	4	0.82	101	7228.210	-42	2	0	2	3	3	1	<b>3.00E-04</b>	15	1042.	002		
*7203.89139	91	5	5	1	5	5	0	<b>7.35E-02</b>	2	0.88	101	7228.289	165	8	5	3	8	6	2	<b>1.30E-05</b>	15	0.02	002		
7203.935	1	4	4	2	3	3	3	<b>5.00E-04</b>	15	0.62	200	7228.7966	-12	6	3	3	5	4	2	<b>8.00E-06</b>	10	0.087	200		
7204.1659	3	7	4	4	7	4	3	<b>7.50E-03</b>	9	0.74	101	7228.8540	-1	<b>4</b>	<b>1</b>	3	2	2	<b>7.80E-06</b>	5	0.19	021			
7204.95S	-4	6	7	4	4	6	5	<b>2.00E-05</b>	15	0.76	200	7229.1331	8	5	2	3	6	3	4	<b>2.72E-04</b>	4	1.08	002		
7205.24600	<b>-14</b>	1	1	1	2	1	2	<b>2.37E-01</b>	3	0.80	101	7229.601	36	7	2	5	6	0	6	<b>1.80E-05</b>	15	0.43	021		
7205.68648	-2	4	1	4	3	2	1	6.10E-04	3	0.43	200	7229.820	-2	4	3	2	1	4	0	<b>3.00E-04</b>	15	0.37	101		
7207.07095	-	2	6	5	2	6	3	<b>2.60E-03</b>	8302.2	021	7229.898	-144	7	5	3	7	6	2	<b>4.50E-05</b>	15	0.02	002			
7207.995	-27	7	4	3	6	5	2	<b>3.00E-05</b>	15	0.42	200	7230.0521	0	2	1	2	2	1	1	<b>2.66E-02</b>	2	0.56	101		
7208.90950	10	6	3	4	6	3	3	<b>3.34E-03</b>	8	0.44	101	7230.2159	-14	7	5	2	7	6	1	<b>1.34E-04</b>	15	239.1	002		
7209.51925	2	6	4	3	6	4	2	<b>6.60E-03</b>	7	0.67	101	7230.31558	1	4	2	2	4	1	3	<b>1.28E-02</b>	4	2.41	200		
7210.1725	-18	9	5	4	8	6	3	<b>1.30E-06</b>	15	0.15	200	7230.557	<b>-599</b>	5	2	3	6	0	6	<b>2.14E-05</b>	15	0.15	101		
7210.7000	0	1	1	4	7	1	0	<b>2.32E-05</b>	6	0.91	021	7230.627	410	8	2	6	9	1	9	<b>8.00E-05</b>	15	0.02	002		
7211.111	0	6	7	3	4	0	7	<b>2.71E-03</b>	3	0.79	101	7230.627	1	9	4	5	9	3	6	<b>5.00E-04</b>	15	2.00	200		
7211.3481	-2	2	6	3	<b>4</b>	<b>5</b>	<b>1</b>	<b>1.50E-04</b>	8	0.43	200	7230.9134	-40	4	3	1	4	3	2	<b>1.32E-01</b>	3	0.84	101		
T211.5810	-26	8	6	3	7	6	2	<b>7.82E-05</b>	4	0.%	021	7231.35875	15	5	3	2	5	3	3	<b>1.90E-02</b>	5	0.87	101		
7211.5989	3	8	6	2	7	6	1	<b>2.38E-04</b>	4	0.97	021	7231.7941	55	4	1	3	3	3	0	<b>9.50E-04</b>	15	1.38	101		
7211.765	508	8	2	7	7	3	4	<b>1.17E-05</b>	15	0.066	200	7231.8724	6	3	2	1	3	1	2	<b>5.00E-02</b>	6	2.51	200		
7212.14392	<b>1</b>	<b>8</b>	<b>4</b>	<b>4</b>	8	4	5	<b>2.32E-03</b>	2	0.73	101	7232.0795	-27	3	3	1	3	3	0	<b>3.00E-01</b>	10	0.87	101		
7212.733	8	9	1	2	3	9	1	1	3	8	021	7232.164	-2	2	7	3	4	7	2	<b>4.90E-03</b>	10	2.51	200		
7212.773	-1	3	3	7	0	7	6	<b>5.00E-05</b>	15	0.77	101	7232.176	-21	2	0	2	1	1	1	5.10E-03	10	1.20	200		
7212.8828	20	3	1	3	3	3	1	2	<b>2.50E-02</b>	5	0.85	101	7232.2116	-30	3	1	2	3	0	3	<b>3.55E-02</b>	3	2.22	200	
7212.9497	2	6	4	2	6	4	3	<b>9.50E-05</b>	10	150.2	200	7232.3202	39	6	5	2	6	6	1	<b>1.00E-05</b>	15	14.83	002		
7213.5054	-7	8	7	2	5	8	1	<b>1.18E-04</b>	7	0.12	101	7232.383	402	6	5	1	6	6	0	<b>3.30E-06</b>	15	0.02	002		
7213.973	<b>-17</b>	<b>4</b>	<b>3</b>	<b>1</b>	5	1	4	<b>1.18E-04</b>	7	0.12	101	7232.52560	<b>-4</b>	3	3	0	3	3	1	<b>1.02E-01</b>	4	0.89	101		
7213.983	2	0	1	0	1	9	9	<b>1.00E-05</b>	15	0.53	101	7232.943	-16	10	3	8	9	4	5	<b>1.00E-05</b>	15	0.33	200		
7214.260	-7	7	6	8	3	5	8	<b>2.65E-06</b>	15	0.78	021	7233.18916	3	5	2	3	5	1	4	<b>2.00E-02</b>	5	2.42	200		
7214.4162	-5	6	2	4	7	3	5																		

Table 4. continued

observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup> R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength %s	R <sub>1</sub> <sup>a</sup> R <sub>2</sub> <sup>b</sup>	band							
7241 .3884	- 3	6	8	4	4	8	3	5	5.80E-04	10	2.47	200	7266.077	-93	4	4	1	5	1	4	4.93E-05	10	14.62	200		
7241.9532	2	3	5	3	3	6	0	6		200		7266.18540	6	6	1	5	5	3	2	2.15E-03	3	1.16	101			
7242.248	3	3	3	0	4	1	3		7.00E-05	15	0.46	101	7266.236	47	9	3	6	9	3	7	8.60E-05	10	0.33	101		
7242.37009	13	1	1	1	1	0	2.85E-01	3	0.84	101		7266.37122	0	6	4	2	6	3	3	2.45E-03	2	3.28	200			
7242.856	-61	4	3	2	5	0	5		1.00E-04	15	7.08	200	7266.65096	-8	3	3	1	3	2	2	1.05E-02	4	5.43	200		
7243.07505	-10	2	2	0	2	2	1		3.90E-01	3	0.85	101	7266.9162	31	6	5	2	7	2	5				200		
7243.92370	0	5	3	2	5	2	3	1.	WE-02	4	2.67	200	7267.5183	-2	1	0	3	7	9	5	4	2.49E-05	15	1.04	101	
7244.0110	0	7	3	4	7	3	5		1.40E-03	3	0.51	101	7267.84222	-1	4	3	2	4	2	3	3.89E-02	2	6.35	200		
7244.5403	-1	8	1	8	9	0	9		3.00E-04	3	0.51	0.96002	7267.9427	10	8	2	6	8	1	7	5.40E-04	7	8.85	200		
7245.0388	0	8	0	8	9	1	9		1.39E-04	5	0.71	002	7268.04W	9	7	0	7	8	1	8	7.70E-04	6	0.71	002		
7245.498	- 3	1	4	2	2	5	3	3	6.00E-05	15	0.52	002	7268.1604	-3	3	1	3	2	0	2	1.60E-02	4	1.46	200		
7245.5716	4	3	2	1	3	2	2		5.19E-02	2	0.74	101	7268.4373	15	7	1	6	6	3	3	3.83E-04	3	1.12	101		
7245.7197	10	4	1	3	4	0	4	6.	30E-03	10	2.49	200	7268.7781	-7	6	3	4	6	2	5	4.75E-04	4	0.22	0.97200		
7246.12437	5	3	0	3	2	2	0	1.	01E-03	2	1.02	0.98	101	7269.7900	25	8	6	3	9	3	6	2.00E-06	15		200	
?247.2349	4	9	2	7	1	0	1	1	0	2.43E-05	4	68.53	200	7270.0863	-4	7	1	7	8	0	8	1.75E-04	8	0.49	002	
7247.5069	14	7	2	6	8	1	7		7.73E-05	3	0.80	002	7270.243	-182	7	4	4	7	5	3	5.60E-06	15	4.43	002		
7247.745	3	6	1	1	4	8	1	2	2	1	2.60E-06	15	6.20	101	7270.5913	39	8	5	4	8	2	7	5.45E-05	2		120
7247.8217	-28	9	4	6	8	5	3		5.92E-06	10	0.54	200	7270.6426	49	9	2	8	9	3	7	4.50E-05	10	142.9	002		
7247.8604	-11	7	5	3	8	3	6		5.97E-06	2	0.44	101	7271.131	-98	8	7	1	9	5	4	7.39E-07	15	2.46	101		
7248.112	-110	7	3	5	8	2	6		1.93E-05	15	1.08	002	7271.3266	12	8	2	6	7	4	3	3.51E-04	2	1.11	1.06		
7248.1662	-28	5	0	5	4	2	2		7.50E-04	4	1.21	101	7271.7495	1029	9	7	3	8	7	2	1.40E-04	5	2.42	021		
*7248.9725	13	8	7	1	7	7	0		1.05E-04	2	1.30	021	7272.44076	-2	5	3	3	5	2	4	1.22E-02	2	8.72	200		
7249.0120	2	1	0	3	7	1	0	2	8.	5.43E-05	8	12.66	200	7272.908	-5	5	4	2	6	2	5	2.00E-05	15	0.27	101	
7249.3489	- 7	8	3	6	9	0	9		1.25E-04	8		200	7273.0000	0	1	0	1	0	0	0	7.70E-02	3	0.83	101		
7249.803	2	0	7	4	4	8	2	7	2.00E-05	15	0.56	101	7273.32065	-2	4	0	4	3	1	3	1.16E-02	2	1.16	200		
?249.92397	"	2	2	1	2	1	2		5.23E-03	4	0.59	200	7273.4560	-22	9	5	5	9	4	6				200		
7250.1298	4	5	2	3	4	3	2		5.60E-04	3	0.51	200	7273.7155	-9	1	0	4	7	10	3	3.52E-05	8	1.43	200		
7250.1804	28	7	2	5	6	4	2		8.84E-05	4	0.76	101	7273.982	5	0	6	2	5	7	1	3.70E-04	6	0.82	002		
7250.396	-290	6	2	4	7	0	7		5.70E-06	100	0.43	101	7274.0866	1	7	8	5	3	8	4	2.65E-03	6	2.43	200		
7250.4842	- 3	6	1	0	5	5	1	0	3	1.16E-06	10	0.54	021	7274.8066	-77	5	4	1	5	3	2	1.25E-02	4	4.42	200	
7250.9002	48	3	3	1	4	0	4		8.07E-05	2	18.49	1.06200	7275.1198	3	7	4	3	7	5	2	1.00E-05	15	1.56	002		
7251.329	-15	5	0	5	5	3	2		6.18E-05	1040	0.72	002	7275.547	0	5	4	2	5	5	1	3.00E-05	15	14.49	002		
7252.00310	8	4	2	2	4	2	3	5.	01E-02	2	0.55	101	7275.677	-21	7	3	5	7	2	6	6.00E-04	15	2.09	200		
7252.28070	-2	4	0	4	3	2	1		3.80E-03	4	1.05	101	7275.6806	-77	5	4	1	5	3	2	1.25E-02	4	4.42	200		
7252.8440	-1	1	0	1	1	1	1		9.60E-02	5	0.83	101	7275.775	5	7	7	9	8	4	5	2.30E-02	3	0.86	101		
?/53.1116	11	4	3	1	4	2	2		8.90E-03	4	3.09	200	7275.8938	18	5	4	1	5	5	0	1.04E-04	15	16.07	002		
7253.130	-57	5	1	4	4	3	1		1.54E-04	15	0.95	101	7276.639	-121	8	4	5	7	1	6	1.65E-06	15	0.22	120		
7253.45481	0	7	2	5	7	1	6	4.	4.40E-03	4	5.58	200	7276.773	0	1	2	3	9	1	2	1.80E-05	15		200		
7253.89384	0	2	1	2	1	0	1		4.25E-02	5	1.57	200	7276.89390	3	7	4	4	7	3	5	1.65E-03	4	6.00	200		
7254.05667	1	3	0	3	2	1			3.24E-02	3	1.34	200	7277.6058	5	8	4	5	8	3	6	2.47E-03	4	7.60	200		
7254.209	-39	8	3	5	7	1	6		5.00E-05	15	0.39	021	7278.01580	-1	6	4	3	6	3	4	8.85E-03	3	5.39	200		
7254.2373	-12	7	4	3	7	3	4		3.90E-03	4	2.73	200	7278.4255	3	3	1	0	5	6	1	1.54E-04	8	6.09	200		
7254.8W7	30	9	3	7	10	0	10		5.80E-06	15		002	7278.75245	2	6	1	5	6	0	6	1.96E-03	3	4.85	200		
7255.158	366	9	1	9	9	2	8		1.54E-06	15	1.22	002	7278.8780	-1	8	1	0	2	8	9	6.10E-05	3	1.03	101		
7255.268	-237	6	4	3	6	0	6		7.69E-07	15	0.48	021	7279.1085	1	8	1	8	8	2	7	1.38E-04	4	439.19	002		
?255.41473	-4	8	3	5	8	3	6		6.60E-04	7	0.26	101	7279.7339	5	7	4	4	8	3	5	1.90E-06	15	0.38	002		
7256.012	61	5	4	2	4	2	3		1.00E-05	15	0.056	021	7280.0620	23	6	2	4	5	3	3	2.00E-04	5	0.58	200		
7256.12881	-5	3	2	2	3	1	3		3.47E-03	3	1.16	200	7280.31515	1	5	4	2	5	3	3	4.20E-03	3	5.12	200		
7256.201	- 8	6	6	4	2	5	2	3	1.80E-05	15	0.085	021	7280.4840	-11	5	1	4	6	2	5	5.90E-04	4	0.73	002		
7256.3694	-39	7	1	7	6	4	2		2.57E-05	15		002	7280.8564	2	2	9	2	7	8	4	5.50E-05	15	0.94	101		
7256.4086	18	9	0	9	9	1	8		8.60E-06	15	2.01	002	7281.08125	5	4	1	4	3	0	3	4.55E-02	5	1.30	200		
7256.5443	8	3	2	2	4	3	1		1.62E-04	8	1.59	002	7281.72912	1	4	4	0	4	3	1	4.04E-03	3	4.82	200		
7256.734	-425	10	6	4	9	6	3		8.13E-05	15	0.37	120	7281.7951	-11	8	5	4	8	4	5	9.60E-04	7	4.56	200		
7257.69145	17	6	4	3	7	2	6		4.59E-05	7	2.20	101	7282.139	-1	7	3	6	5	2	7	1.59E-05	10		021		
?257.8490	-24	7	3	4	6	4	3		1.80E-05	3	0.094	200	7282.3006	-21	5	3	3	6	1	6	1.49E-05	8	0.12	101		
7258.0762	-3	10	1	9	10	2	8		7.50E-06	10	11.55	0														

Table 4. continued

observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band					
7288.0909 -1	2	1	2	1	1	1	<b>9.83E-02</b>	2	0.86	101	7320.6917	4	9	1	8	9	0	9	<b>4.82E-04</b>	2	11.	17	200					
7289.0461 -21	9	3	7	9	2	8	<b>8.39E-05</b>	7	3.32	200	7321.3696	57	8	4	5	8	0	8	<b>6.70E-06</b>	7	14.	07	021					
7290.10843 -21	5	0	5	<b>4</b>	1	4	<b>3.42E-02</b>	3	1.17	200	7321.6213	24	9	2	8	9	1	9	<b>1.53E-04</b>	5	9.	48	200					
7291.3928 31	6	0	6	7	1	7	<b>3.39E-04</b>	2	0.57	002	7321.8242	-	9	5	3	3	6	2	<b>2.67E-05</b>	5	0.	63	002					
7291.4306 30	4	4	1	5	2	4	<b>1.76E-04</b>	3	11.04	101	7321.875	281	10	1	10	9	2	7	<b>1.60E-06</b>	15	2.	49	002					
7291.6097 -5	6	1	6	7	0	7	<b>1.13E-03</b>	2	0.64	002	7322.88233	-1	3	1	2	2	1	1	<b>1.09E-01</b>	2	0.	73	101					
7291.71166 3	6	5	1	6	4	2	<b>1.26E-03</b>	2	5.24	200	7323.4187	<b>1</b>	5	2	4	5	0	5	<b>1.37E-02</b>	5	0.	71	101					
?2292.3738 5	<b>4</b>	1	3	4	1	4	<b>4.05E-02</b>	3	0.93	101	7323.9568	-18	4	1	4	3	1	3	<b>1.44E-01</b>	3	0.	88	101					
7292.60084 -7	6	5	2	6	4	3	4.08E-03	3	5.90	200	7324.9414	-	5	3	6	1	6	2	<b>1.42E-05</b>	7	1.	19	002					
7293.004 -361	8	2	6	7	0	7	<b>6.77E-06</b>	15	0.13	021	7324.987	108	5	5	0	5	0	5	<b>5.90E-06</b>	15			120					
7293.86052 7	5	1	5	4	0	4	<b>1.16E-02</b>	3	1.10	200	7325.7143	<b>18</b>	<b>6</b>	<b>5</b>	<b>2</b>	6	1	5	<b>5.30E-04</b>	4	1069.		021					
7294.1229 -10	2	0	2	1	0	1	<b>3.79E-01</b>	2	0.79	101	7325.7422	42	3	2	<b>1</b>	2	1	2	<b>6.96E-04</b>	70.	086		200					
7294.2601 -41	7	1	6	7	0	7	3.44E-03	10	7.67	200	7325.81223	<b>1</b>	5	2	4	<b>4</b>	<b>1</b>	<b>3</b>	<b>8.27E-03</b>	2	1.	82	200					
?2295.2866 0	9	6	3	9	5	4	<b>4.85E-05</b>	15	1.16	200	7325.890	-	1	9	1	2	3	9	1	2	3	1	0	2.00E-05	15	1.	12	101
7295.4865 12	10	2	8	10	1	9	6.20E-05	620.	84	200	7326.59103	-8	4	3	2	3	3	3	<b>3.57E-02</b>	4	0.	92	101					
7295.632 -44	8	2	7	8	3	6	<b>1.50E-04</b>	10	58.73	002	7327.552	-55	6	3	4	6	1	5	<b>1.30E-03</b>	15	0.	59	101					
7295.9982 19	8	3	6	9	1	9	<b>1.47E-06</b>	15	0.39	101	7327.59276	7	7	1	6	6	2	5	<b>4.74E-03</b>	10	0.	97	200					
7296.64894 5	5	5	0	5	4	<b>1</b>	<b>4.30E-03</b>	3	5.76	200	7327.6753	-	1	2	4	0	4	3	0	<b>4.36E-01</b>	4	0.	85	101				
7296.8504 -8	5	5	1	5	4	2	<b>1.42E-03</b>	3	5.77	200	7327.7452	<b>11</b>	6	1	5	6	1	6	<b>9.30E-03</b>	6	0.	72	101					
7296.8724 -27	4	<b>1</b>	3	5	2	4	<b>2.55E-04</b>	<b>10</b>	0.77	002	7328.0119	-22	4	3	<b>1</b>	3	3	0	<b>1.04E-01</b>	4	0.	90	101					
?2297.0811 7	8	6	2	8	5	3	<b>1.74E-04</b>	4	6.10	200	7328.43138	9	7	3	5	<b>7</b>	<b>1</b>	<b>6</b>	<b>2.30E-03</b>	3	0.	54	101					
7297.2710 0	9	6	4	9	5	5	<b>1.78E-05</b>	5	1.43	200	7329.2167	-	1	6	6	2	5	3	<b>1.37E-05</b>	10	0.	53	002					
7297.5421 -5	8	6	3	8	5	4	<b>5.30E-04</b>	2	6.42	0.95	200	7329.371	-105	9	0	9	8	3	6	<b>2.96E-06</b>	<b>15</b>	2.	86	002				
7297.9841 7	7	2	6	7	1	7	<b>8.05E-04</b>	3	4.44	200	7330.09565	-1	5	3	3	5	1	4	<b>4.21E-03</b>	2	0.	56	101					
7298.35217 0	7	2	5	7	2	6	1.70E-03	8	0.78	101	7330.2644	-	3	2	4	2	3	3	<b>8.60E-02</b>	3	0.	89	101					
7298.6875 13	10	3	7	10	3	8	<b>2.69E-04</b>	6	1.17	0.90	101	7330.5109	<b>1</b>	2	1	1	3	2	2	<b>2.40E-04</b>	15	0.	63	002				
7299.4312 27	2	1	1	1	1	0	<b>2.40E-01</b>	4	0.72	101	7330.86W	-	2	2	1	0	4	7	1	0	2	8	<b>2.70E-05</b>	5	0.	51	101	
7302.3290 15	5	2	4	6	1	5	<b>1.54E-04</b>	4	0.78	002	7331.24337	-11	8	0	8	7	1	7	<b>2.85E-03</b>	6	0.	83	200					
<b>7302.60204</b> 0	7	6	1	7	5	2	<b>1.03E-03</b>	2	7.03	200	7331.71492	-10	8	1	8	7	0	7	<b>9.50E-03</b>	3	0.	91	200					
7302.7543 15	7	6	2	7	5	3	<b>3.35E-04</b>	3	6.93	200	7331.8280	-	1	3	1	1	4	8	1	1	2	9	3.36E-05	15	0.	63	101	
7303.23140 -1	3	2	2	2	1	1	<b>1.95E-02</b>	5	3.10	200	7332.17397	-	1	1	0	1	9	1	0	0	1	0	<b>5.83E-05</b>	2	17.	42	200	
7303.283 214	7	3	5	7	4	4	<b>7.00E-05</b>	15	21.88	002	7332.24630	-2	9	2	7	9	2	8	<b>2.73E-04</b>	3	0.	82	0.93	101				
*7303.9919 0	9	8	2	8	8	1	<b>3.58E-05</b>	2	2.76	021	7332.7210	3	8	3	6	7	1	7	<b>2.40E-04</b>	7	15.	61	021					
<b>7304.147</b> -203	9	3	6	8	1	7	<b>1.82E-06</b>	15	0.13	021	7332.8464	6	4	2	3	5	1	4	<b>4.75E-04</b>	2	0.	72	0.98	002				
T304.5419 6	7	1	7	7	2	6	<b>5.37E-04</b>	8	283.8	002	7333.07732	4	10	2	9	10	1	10	<b>1.65E-04</b>	4	15.	09	200					
7305.0804 -1	0	6	0	6	5	1	<b>8.21E-03</b>	4	1.04	200	7333.3178	9	8	3	6	8	1	7	4	.2	&	0	42	0.	6	0	101	
7506.4886 25	2	2	1	2	0	2	<b>3.02E-03</b>	6	0.77	101	7333.6945	<b>5</b>	4	0	4	5	1	5	<b>6.60E-04</b>	3	0.	60	002					
7306.7388 -91	6	1	6	5	0	5	<b>2.50E-02</b>	10	1.01	200	7333.8056	<b>-69</b>	9	4	6	9	2	7	<b>1.64E-04</b>	15	0.	43	101					
<b>7306.7518</b> -24	3	1	3	2	1	2	<b>4.50E-01</b>	10	0.93	101	7333.84564	-	3	6	2	5	5	1	4	<b>1.50E-02</b>	7	1.	46	200				
<b>7307.1667</b> -13	6	0	6	5	1	5	<b>4.01E-04</b>	3	6.97	200	7334.139	<b>31</b>	8	2	6	7	3	5	<b>1.33E-04</b>	<b>15</b>	0.	70	200					
7507.1987 15	6	6	1	6	5	2	<b>1.23E-03</b>	4	7.15	200	7334.4735	-33	5	4	<b>1</b>	4	0	4	<b>7.40E-05</b>	623.	50	021						
<b>7307.9985</b> 6	7	0	7	7	1	6	<b>3.75E-05</b>	5	6.35	002	7334.52279	3	6	2	5	6	0	6	<b>2.65E-03</b>	4	0.	68	101					
<b>7308.12475</b> 11	8	1	7	8	0	8	<b>3.84E-04</b>	2	7.61	0.93200	7334.%56	-28	6	0	6	6	1	5	<b>3.84E-05</b>	3	8.	85	002					
<b>7308.6906</b> 43	7	2	5	6	3	4	<b>5.85E-04</b>	3	0.72	200	7335.4685	3	7	5	3	7	1	6	<b>9.00E-05</b>	4	45.	09	021					
<b>7308.7779</b> -20	2	<b>1</b>	2	3	2	<b>1</b>	<b>4.40E-04</b>	5	1.42	002	7336.2995	-	2	3	3	3	0	3	0	3	<b>9.33E-04</b>	5	10.	48	200			
<b>7308.81783</b> 2	3	2	2	3	0	3	<b>1.83E-02</b>	3	0.76	101	7336.3136	16	4	3	2	4	1	3	<b>9.85E-04</b>	5	0.	52	101					
<b>7309.24020</b> -4	6	1	5	5	2	4	<b>2.32E-03</b>	3	1.13	200	7336.78846	-12	3	3	1	2	2	0	<b>2.70E-03</b>	3	0.	44	200					
7509.4967 0	8	7	1	8	6	3	<b>1.98E-04</b>	3	8.44	200	7336.8384	-5	4	1	4	5	0	5	<b>2.00E-03</b>	3	<b>0.64</b>	002						
<b>7309.5257</b> -39	8	7	2	8	6	3	<b>1.98E-04</b>	3	8.44	200	7337.2411	-	2	5	4	1	6	1	6	<b>1.30E-05</b>	15			200				
<b>7309.95387</b> 0	8	2	7	8	1	8	<b>1.14E-03</b>	4	6.48	200	7337.71162	-8	5	4	2	4	4	1	<b>3.67E-02</b>	5	0.	84	101					
T510.0854 -4	<b>6</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>1.28E-04</b>	<b>6</b>	5.06	002	7338.160	24	3	3	0	2	2	1	<b>1.28E-02</b>	5	0.	75	200					
<b>7310.34754</b> -6	5	1	4	5	1	5	<b>6.00E-03</b>	5	0.75	101	7338.170	-30	<b>5</b>	<b>4</b>	<b>1</b>	4	4	0	<b>1.35E-02</b>	5	0.	93	101					
T510.67777 -7	3	2	2	2	2	1	<b>2.16E</b>																					

Table 4. continued

observed position	upper o-c	lower 'a 'c	observed strength %	R <sub>1</sub> <sup>a</sup>	R	2 <sup>b</sup> band	observed position	upper o-c	lower 'a 'c	J	K <sub>a</sub>	observed strength %	R <sub>1</sub> <sup>b</sup>	R2 <sup>b</sup> band
7346. 67826 -10	7 2 6 7 0 7	<b>4.40E-03</b>	4 0.72	101	7369. 5620 34	6 2 4	6 3 3	<b>6.65E-06</b>	8 0.091	002				
7346. 8384 <b>10</b>	4 3 1 4 0 4	<b>5.30E-04</b>	4 13.28	200	7370. 3284 33	9 7 2	8 7 1	<b>7.60E-05</b>	4 0.62	101				
7347. 03615 <b>-14</b>	5 3 3 4 3 2	<b>1.20E-01</b>	5 0.93	101	7370. 3692 69	9 7 3	8 7 2	<b>2.27E-04</b>	3 0.61	101				
7348. 4041 -21	5 2 4 4 2 3	<b>2.20E-01</b>	4 0.88	101	7370. 4624 -11	9 1 8	9 1 9	<b>2.87E-04</b>	4 0.68	101				
7348. 551 -359	8 0 8 7 3 5	<b>1.00E-06</b>	15 1.72	002	7370. 7334 23	8 1 7	7 4 4	8.35E-05	3314. 7	002				
7349. 3273 <b>34</b>	1 0 3 8 1 0 1 9	<b>7.30E-05</b>	4 0.67	101	7371. 1513 -3	2 0 2	3 1 3	5.92E-04	3 0.56	002				
7349. 90255 5	8 2 7 7 1 6	<b>3.96E-03</b>	3 1.01	200	7371. 45945 2	9 2 8	9 0 9	<b>8.40E-04</b>	3 0.69	0.98	101			
7350. 0357 77	1 1 0 2 2 2 1	<b>6.44E-04</b>	5 0.55	002	7372. 809 5	3 9 8	2 8 8	<b>8.00E-05</b>	3 0.80	101				
*7350. 639 -187	9 7 2 8 8 1	<b>1.58E-05</b>	3	002	7372. 86996 -1	5 3 3	4 2 2	<b>1.33E-02</b>	4 4.75	200				
*7350. 8873 -145	7 6 2 6 6 1	<b>2.85E-03</b>	3 0.74	101	7373. 0576 -65	10 3 7	9 1 8	<b>2.78E-05</b>	10 2.19	021				
7351. 203 -424	12 1 11 12 0 12	<b>5.52E-06</b>	10 16.99	200	7373. 9041 6	0 6 5	5 3 3	<b>1.73E-03</b>	63020.	002				
7351. 48420 -6	5 3 2 4 3 1	<b>3.88E-02</b>	4 0.90	101	7373. 935 -158	12 1 12	11 0 11	<b>3.93E-04</b>	3 0.57	200				
7351. 9683 -29	12 2 11 12 1 12	<b>1.75E-05</b>	4 17.96	200	7375. 1791 1 7 6	3 4 5	2 3	<b>4.75E-02</b>	2 8.95	200				
7352. 323 -233	9 6 4 1 0 2 9	<b>7.20E-07</b>	15	021	7375. 466 -55	3 3 0	3 1 3	<b>2.00E-04</b>	15 0.56	101				
7352. 431 -37	7 4 3 8 1 8	<b>3.30E-06</b>	10	200	7375. 54000 6 6 1	5 5 1	<b>1 4</b>	<b>1.66E-01</b>	2 0.83	101				
7352. 6282 12	9 1 9 8 2 6	<b>2.00E-06</b>	10 3.84	002	7375. 7249 -25	6 3 3	5 3 2	<b>8.39E-02</b>	4 0.86	101				
7352. 9932 0	7 4 4 7 2 5	<b>2.97E-04</b>	3 0.280. 99	101	7376. 1031 1 9 1 1 2	1 0 1 0 1 9	<b>8.50E-05</b>	5 0.66	200					
7353. 13472 6	3 0 3 4 1 4	<b>2.04E-03</b>	3 0.57	002	7376. 3300 2 1 1 1 1 0	1 0 2 9	<b>2.70E-04</b>	4 0.73	200					
*7353. 6145 -6 2 8 7 1 7	7 0	<b>4.42E-04</b>	4 0.64	101	7377. 3645 -1 2 6 4 2	5 0 5	<b>5 0 5</b>	<b>9.03E-05</b>	3 8.43	021				
7353. 73573 0 1 0 1 1 0 9 0 9	<b>1.70E-03</b>	6 0.60	200	7377. 6244 2 5 0 5	4 3 2	<b>2.98E-04</b>	3465. 8	002						
7354. 18247 5 2 2 0 1 0 1	<b>7.40E-03</b>	4 0.83	101	7377. 8376 -13 7 5 2	6 3 3	3.66E-05	2 1.90	021						
7354. 35456 4 10 0 10 9 1 9	<b>7.00E-04</b>	15 0.74	200	7 3 7 7 . 9 4 1 6 3 4 5 3 2 6 2 5	2	2.10E-05	4 0.12	002						
7354. 58740 -4 6 1 6 5 1 5	<b>8.71E-02</b>	3 0.88	101	7378. 67820 -2 7 4 4 6 4 3	<b>2.24E-02</b>	2 0.75	101							
7354. 843 -2 9 9 2 7 8 5 4	<b>2.04E-05</b>	15	002	7379. 3088 -1 5 4 2 5 2 3	<b>3.32E-04</b>	2 0.32	101							
7355. 2597 -1 4 9 1 8 8 2 7	<b>1.55E-03</b>	5 0.87	200	7380. 01037 -17 7 2 6 6 2 5	9.10E-02	3 0.86	101							
7355. 5786 -3 6 0 6 5 0 5	<b>2.75E-01</b>	5 0.92	101	7380. 1167 -18 4 4 1	<b>8.90E-03</b>	6 0.83	200							
7355. 6685 -35 9 2 7 8 3 6	<b>5.00E-04</b>	15 1.37	200	7380. 35220 -6 4 4 0	<b>2.98E-03</b>	3 0.84	200							
7356. 04811 -9 4 3 2 <b>3 2 1</b>	<b>9.15E-04</b>	6 0.072	200	7381. 03110 4 7 4 3 6 4 2	8.03E-03	5 0.82	101							
7356. 64542 5 1 0 3 8 9 0 9	<b>5.88E-04</b>	4 288. 8	120	7381. 41920 -3 8 1 8 7 1 7	<b>3.16E-02</b>	2 0.87	101							
7356. 810 6 9 1 0 5 6 1 0 3 7	<b>2.11E-06</b>	15 0.16	101	7381. 6087 -7 8 0 8 7 0 7	9.85E-02	4 0.91	101							
7356. 966 -264 12 4 8 12 2 11	<b>7.00E-06</b>	15	021	7381. 7822 1 3 2 1 2 0 2	<b>5.36E-03</b>	10 0.92	101							
7357. 18489 -12 6 4 3 5 4 2	<b>9.64E-03</b>	3 0.66	101	7382. 2069 12 10 2 9 10 0 10	1.10E-04	2 0.71	101							
7357. 5269 -59 9 2 7 8 0 8	<b>3.30E-05</b>	10 4.86	021	7382. 3520 -2 1 0 1 9 1 0 1 1 0	<b>3.30E-04</b>	4 0.67	101							
7357. 62600 -2 8 1 7 8 1 8	<b>2.22E-03</b>	3 0.73	101	7382. 51192 -3 7 3 5 6 2 4	4.01E-03	7 3.80	200							
7358. 1895 5 1 1 3 9 1 1 1 1 0	<b>7.50E-05</b>	4 0.70	101	7382. 7046 83 13 0 13 12 1 12	<b>1.53E-04</b>	3 0.60	200							
7358. 792 -5 3 4 3 2 5 2 3	<b>7.50E-05</b>	15 0.48	002	7382. 734 8 8 6 3 7 7 0	<b>4.90E-05</b>	5	002							
<b>7358. 9409 14</b> 9 2 8 <b>8 1 7</b>	<b>6.04E-04</b>	2 0.90	200	7382. 7855 2 8 8 6 2 7 7 1	<b>1.85E-05</b>	6	002							
7359. 0501 -1 3 8 2 7 8 0 8	<b>6.80E-04</b>	5 0.71	101	7 3 8 3 . 6 6 6 8 1 5 7 3 5 6 3 4	<b>5.30E-02</b>	4 0.88	101							
7359. 33337 9 6 4 2 5 4 1	<b>3.85E-02</b>	4 0.88	101	7383. 9156 -7 1 2 1 1 1 1 1 2 1 0	<b>4.15E-05</b>	15 0.88	200							
7359. 96348 -2 <b>3 1 3 4 0 4</b>	<b>6.33E-04</b>	5 0.59	002	7384. 17277 -3 2 1 2 3 0 3	<b>1.50E-03</b>	4 0.58	002							
7360. 5422 1 7 6 5 1 5 3 2	<b>1.50E-04</b>	7 2.18	021	7384. 40313 1 8 5 4 7 5 3	<b>1.88E-03</b>	4 0.82	101							
7360. 6838 5 5 0 5 5 1 4	2.10E-05	15 0.76	002	7384. 5044 <b>13</b> 9 3 7 8 1 8	<b>8.25E-04</b>	5 41.85	021							
7361. 476 -5 5 1 4 <b>4 1 3</b>	<b>8.00E-02</b>	10 0.77	101	7384. 824 1 1 0 4 0 4 4 1 3	<b>6.45E-05</b>	15 0.90	002							
7361. 480 <b>1</b> 5 2 3 4 2 2	<b>6.00E-02</b>	10 0.76	101	7 3 8 4 . 8 7 2 5 9 3 8 5 3 7 5 2	<b>5.58E-03</b>	3 0.81	101							
7361. 7722 -2 3 9 4 6 9 0 9	<b>3.00E-06</b>	15 5.45	021	7384. 9686 19 12 2 11 11 1 10	<b>1.03E-04</b>	5 0.71	200							
7361. 824 -7 4 1 4 4 2 3	<b>1.00E-05</b>	15 0.074	002	7385. 0136 -77 6 4 2 6 1 5	<b>1.50E-04</b>	5 10.56	200							
7362. 44798 <b>15</b> 6 <b>1</b> 5 5 4 2 2	2.41E-03	6	002	7385. 0354 -5 7 5 4 1 5 <b>1 4</b>	<b>3.88E-04</b>	3 8.89	200							
7362. 58959 -3 4 3 1 3 2 2	<b>6.26E-04</b>	2 0.18	200	7385. 2220 -9 1 1 2 9 1 0 3 8	7.95E-05	3 0.84	0.96	200						
*7362. 8435 0 1 0 9 1 9 9 0	<b>4.15E-06</b>	5 0.35	101	7 3 8 6 . 0 3 3 0 1 7 2 1 2 2 2 1	<b>1.08E-04</b>	4 0.28	002							
7363. 2337 -10 7 0 7 6 3 4	<b>5.78E-04</b>	3 267. 00. 96002	002	7 3 8 6 . 5 2 0 3 2 5 9 3 7 8 2 6	<b>2.02E-04</b>	3 0.70	200							
7363. 4508 -2 7 2 5 7 3 4	<b>1.17E-05</b>	4 0.16	002	7386. 7241 2 6 1 0 7 3 9 7 2	<b>1.11E-04</b>	4 0.62	101							
7363. 5344 25 4 2 2 3 1 3	<b>2.06E-04</b>	3 0.22	200	7386. 871 -59 <b>10</b> 7 4 9 7 3	<b>3.70E-05</b>	10 0.62	101							
7364. 2341 1 0 1 1 0 1 1 1 0 1 1 0	<b>8.60E-04</b>	4 0.68	200	7386. 885 13 5 1 4 5 2 3	<b>8.70E-05</b>	5 0.25	002							
<b>7364.</b> 3472 1311 111 10010 10010	<b>2.96E-04</b>	3 0.70	200	7386. 9619 8 9 6 3 8 6 2	<b>3.27E-04</b>	<b>3 0.79</b>	101							
'7364. 5260 -2 6 4 3 6 2 4	<b>1.37E-04</b>	10 0.34	101	7387. 0305 4 2 9 6 4 8 6 3	<b>9.90E-04</b>	6 0.79	101							
7364. 65180 6 6 5 2 5 3 3	<b>1.15E-02</b>	4 501. 9	021	7387. 0804 <b>10</b> 7 1 6 6 1 5	<b>3.42E-02</b>	2 0.91	101							
<b>7364. 8903</b> 60 3 2 2 4 <b>1</b> 3	<b>2.00E-04</b>	15 1.00	002	7387. 106 -155 8 3 6 7 2 5	3.80E-03	15 2.17	200							
<b>7365. 0104</b> -1 7 6 2 5 5 2 4	<b>5.13E-02</b>	2 0.88	101	7388. 5924 8 4 3 1 4 1 4	<b>3.44E-04</b>	2 0.24	101							
7365. 0860 -4 6 5 3 2 5 0 5	<b>1.00E-04</b>	15 2.15	200	7388. 620 1 2 8 7 1 8 5 4	<b>1.00E-06</b>	15 0.91	021							
'7365. 37765 -6 7 5 3 6 5 2	<b>9.80E-03</b>	3 0.86	101	7388. 634 <b>24</b> 4 4 1 5 3 2	<b>1.05E-05</b>	15 0.21	002							
7365. 47488 -5 7 5 2 6 5 1	3.20E-03	3 0.84	101	7388. 84514 <b>3</b> 1 0 1 2 1 2	<b>1.29E-03</b>	2 0.53	0.89002							
'7366. 3213 41 10 1 9 9 2 8	<b>2.47E-04</b>	3 0.85	200	7390. 072 -8 5 3 2 4 2 3	<b>6.00E-03</b>	15 1.37	200							
<b>7366. 49014</b> -3 6 3 4 5 3 3	<b>1.53E-02</b>	2 0.47	101	7390. 1318 -4 6 2 4 5 2 3	<b>8.30E-02</b>	6 0.53	101							
<b>7366. 755</b> -115 12 3 10 12 1 11	<b>5.00E-06</b>	15 0.47	101	7390. 7037 -13 7 5 3 6 3 4	<b>2.68E-03</b>	746. 99	021							
<b>7366. 847</b> 169 12 2 10 12 2 11	<b>2.13E-05</b>	15 0.62	101	<b>7390</b> . 705 -65 <b>14</b> 1 14 13 0 <b>13</b>	7.00E-05	3 0.83	200							
<b>7368. 40771</b> -11 7 1 7 6 1 6	<b>1.66E-01</b>	4 0.87	101	7390. 866 8 4 3 1 5 2 4	<b>2.00E-05</b>	15 0.28	002							
7368. 5475 -1 4 1 0 2 9 9 1 8	<b>7.50E-04</b>	10 0.81	200	7391. 25723 <b>18</b> 10 3 8 9 2 7	<b>3.52E-04</b>	3 0.93	200							
7368. 85125 -1 7 0 7 6 0 6	<b>5.70E-02</b>	3 0.90	101	7391. 4388 -23 8 5 3 7 3 4	6.662-05	3 1.69	<b>1.01</b> 021							
7369. 08811 1 7 1 6 6 4 3	<b>2.45E-03</b>	85228.	002	7391. 8598 <b>31</b> 4 4 1 4 2 2	<b>5.00E-05</b>	5 0.27	101							
7369. 1978 -25 8 6 2 7 6 1	<b>1.70E-03</b>	4 0.74	101	7392. 2142 -46 6 3 3 6 0 6	<b>1.47E-04</b>	4 72. 56	200							
"7369. 2250 -39 8 6 3 7 6 2	<b>5.84E-04</b>	2 0.76	101	7392. 3503 <b>20</b> 11 1 10 11 1 11	<b>3.44E-05</b>	2 0.60	101							
"7369. 2996 -5 5 2 3 5 3 2	<b>2.00E-05</b>	15 0.055	002	7392. 3800 <b>0</b> 7 4 3 7 1 6	<b>3.40E-04</b>	2 22.70	200							

**Table 4. continued**

observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band	observed position o-c	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup> band		
7393. 1261 -4	11	2	10	11	0	11	<b>1.16E-04</b>	5	0.71	<b>101</b>	7419. 8116	5	6	4	3	5	5	0	<b>1.02E-04</b>	6380. 9	002		
*T393. 2107 124	1	0	8	2	9	8	<b>2.00E-05</b>	8	0.31	101	7419. 8626	-5	9	5	4	9	2	7	<b>3.27E-05</b>	15	<b>13.31</b>	200	
7393. 50567 -6	8	2	7	7	2	6	<b>1.71E-02</b>	5	0.91	101	7419. 97806	9	10	5	6	9	5	5	<b>3.80E-04</b>	10	0.85	101	
7393. 7917 -21	9	0	9	8	0	8	<b>1.84E-02</b>	4	<b>0.99</b>	101	7420. 15370	-11	8	2	6	7	2	5	<b>01E-02</b>	3	0.76	101	
7393. 84558 -10	9	1	9	8	1	8	5.23E-02	5	0.94	101	7421. 1713	-10	14	1	13	14	1	14	<b>6.00E-06</b>	8	1.04	101	
7393. 887 <b>1</b>	3	3	1	4	2	2	<b>4.00E-05</b>	15	0.96	002	7421. 2408	8	10	2	8	9	0	9	2.25E-04	729. 080.	91	021	
7393. 892 <b>-15</b>	8	5	4	8	3	5	4.00E-05	15	0.89	101	7421. 3840	68	11	6	6	10	6	5	<b>1.55E-04</b>	6	0.80	101	
7-394. 747 -61	7	4	3	8	0	8	<b>1.00E-06</b>	10	1.29	101	7421. 404	<b>51</b>	6	4	2	5	5	1	<b>1.90E-05</b>	10		002	
7396. 3408 <b>19</b>	9	4	6	8	2	7	<b>1.00E-03</b>	737.	00	021	7421. 7314	-8	11	6	5	10	6	4	4.60E-05	5	0.71	101	
7396. 44761 0	8	4	5	7	4	4	4.50E-03	3	0.84	101	7422. 107	522	6	5	1	6	1	6	<b>7.63E-07</b>	15		021	
7397. 09795 13	2	2	1	3	1	2	<b>2.03E-04</b>	4	0.55	002	7422. 2391	-25	3	2	1	4	1	4	4.80E-05	6	0.17	002	
?397. 3020 14	4	1	3	4	2	2	9.00E-05	<b>15</b>	0.30	002	7422. 5085	-25	8	5	4	7	6	1	6.60E-05	6		002	
<b>7397.57458</b> -7	8	1	7	7	1	6	<b>4.95E-02</b>	3	0.85	101	7422. 56921	11	3	3	0	2	1	1	<b>8.45E-04</b>	3	0.74	101	
7398. 5446 73	8	4	4	7	1	7	<b>7.26E-06</b>	15		120	7422. 7025	3	6	3	3	5	2	4	<b>1.00E-05</b>	15	0.025	200	
7399. 15642 <b>1</b>	7	3	4	6	3	3	<b>1.62E-02</b>	4	0.84	101	7422. 8403	-70	4	2	2	5	1	5	<b>5.48E-06</b>	3	0.090	002	
7399. 51375 -5	8	3	6	7	3	5	9.50E-03	5	0.91	101	7423. 67031	0	8	5	3	8	2	6	<b>1.68E-05</b>	2	7.32	200	
7400. 4408 0	5	4	2	4	3	1	<b>5.70E-04</b>	2	0.27	200	7423. 7396	<b>12</b>	8	5	3	7	6	2	<b>2.19E-05</b>	3		002	
7400. 6483 -13	2	1	1	2	2	0	<b>7.58E-05</b>	2	0.26	002	7423. 95193	-6	6	4	2	5	3	3	<b>6.19E-05</b>	3	<b>0.066</b>	200	
7401. 0309 <b>3</b>	7	5	3	6	6	0	<b>2.15E-05</b>	5		002	7424. 0864	10	10	6	5	9	7	2	<b>2.00E-05</b>	7		002	
7401. 2672 <b>14</b>	3	1	2	3	2	1	<b>3.49E-04</b>	3	0.280.	96	7424. 69397	<b>4</b>	10	5	5	9	5	4	<b>1.03E-03</b>	2	0.77	101	
7401. 3527 8	7	5	2	6	1	6	6.0E-	0.5	4	002	7424. 868	-28	10	6	4	9	7	3	4.90E-06	15		002	
7401. 9766 0	5	4	1	4	3	2	2.03E-03	2	0.34	200	7425. 96971	-	2	1	0	1	1	0	<b>8.17E-04</b>	4	0.42	002	
7402. 6037 <b>19</b>	9	5	4	8	3	5	<b>1.25E-05</b>	15	1.62	021	7426. 111	16	12	1	12	11	1	11	<b>1.43E-03</b>	10	1.05	101	
7402. 74360 -2	9	5	5	8	5	<b>4</b>	<b>2.74E-03</b>	2	0.83	101	7426. 114	18	10	3	8	9	3	7	<b>1.80E-03</b>	10	0.97	101	
7402. 7807 -38	11	7	4	10	7	3	<b>2.20E-05</b>	15	0.%	101	7426. 1387	-29	12	0	12	11	0	11	<b>4.28E-03</b>	5	1.05	101	
7402. 8617 <b>3</b>	3	3	1	2	0	2	<b>2.40E-04</b>	3	7.01	200	7426. 409	<b>11</b>	<b>6</b>	<b>5</b>	<b>2</b>	6	3	3	<b>3.00E-05</b>	15	0.43	101	
7402. 9401 <b>-7</b>	12	1	11	12	1	12	<b>3.70E-05</b>	7	0.67	101	7426. 450	<b>41</b>	<b>11</b>	<b>1</b>	<b>10</b>	10	1	9	<b>1.28E-03</b>	10	0.89	101	
7403. 043 -138	11	3	8	11	11	3	2.29E-06	15		021	7426. 458	<b>-22</b>	<b>9</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>1.95E-03</b>	<b>10</b>	<b>0.83</b>	<b>101</b>	
7403. 069 666	5	5	0	6	1	5	<b>5.07E-07</b>	15	1.84	101	<b>7426.60192</b>	<b>-18</b>	11	2	10	10	2	9	<b>4.20E-03</b>	5	0.97	101	
7403. 1869 0	11	7	5	10	7	4	3.67E-05	10	0.54	101	7427. 5605	44	7	4	3	6	0	6	6.90E-06	3	2.95	021	
7403. 2914 27	12	2	11	12	0	12	<b>1.30E-05</b>	15	0.75	101	7427. 9538	6	1	0	4	7	9	4	6.88E-04	3	0.83	101	
7403. 61527 -4	8	4	4	7	4	3	<b>1.37E-02</b>	6	0.86	101	7428. 33074	23	7	3	4	7	0	7	<b>1.22E-04</b>	2	63.16	<b>1.03</b>	200
7403. 771 -12	9	6	4	8	7	1	<b>1.25E-05</b>	15		002	7429. 076	139	15	2	14	15	0	15	<b>1.25E-06</b>	5	0.94	101	
7403. 9991 <b>44</b>	9	6	3	8	7	2	<b>3.75E-05</b>	<b>4</b>		002	7429. 2029	<b>-21</b>	7	4	3	7	2	6	<b>5.45E-06</b>	3	0.046	101	
7404. 4019 -11	1	0	6	4	9	6	<b>3.90E-04</b>	4	0.73	101	7429. 72010	4	9	2	7	8	2	6	<b>4.26E-03</b>	2	0.78	101	
7404. 4519 -1	1	0	6	5	9	6	<b>4.10E-04</b>	10	0.78	101	7430. 860	60	5	2	3	6	1	6	<b>2.17E-06</b>	5	0.024	002	
7404. 4691 -48	9	5	4	8	5	3	9.1	0E-04	6	0.82	101	7431. 3429	<b>21</b>	<b>6</b>	<b>1</b>	<b>6</b>	5	2	3	<b>3.12E-04</b>	5	50.74	002
7404. 60730 5	3	0	3	3	<b>1</b>	2	<b>4.31E-04</b>	3	0.53	002	7431. 44292	2	4	3	2	3	0	<b>3</b>	2.09E-03	2	8.95	200	
<b>7405.111</b> -70	10	0	10	9	0	9	2.59E-02	5	1.00	101	7432. 0392	-8	7	<b>4</b>	<b>4</b>	6	3	3	<b>1.94E-04</b>	5	0.32	200	
7405. 1467 25	10	1	10	9	1	9	<b>8.20E-03</b>	5	0.%	101	7432. 30932	12	9	3	6	8	3	5	<b>1.91E-03</b>	6	0.49	<b>101</b>	
7405. 18698 7	7	2	5	6	2	4	<b>1.40E-02</b>	4	0.50	101	7433. 5441	8	7	5	2	7	2	5	<b>4.92E-05</b>	3	5.70	1.00	200
7406. 02749 -12	<b>9</b>	<b>2</b>	<b>8</b>	8	2	7	<b>2.30E-02</b>	4	0.87	101	7434. 4660	-57	9	4	5	9	<b>1</b>	<b>8</b>	<b>3.74E-05</b>	5	58.92	200	
7407. 3565 29	4	4	0	4	2	3	<b>7.90E-05</b>	4	0.16	101	7435. 6164	<b>91</b>	<b>13</b>	<b>1</b>	<b>13</b>	<b>12</b>	<b>1</b>	<b>12</b>	<b>1.85E-03</b>	3	0.98	<b>101</b>	
7407. 7824 <b>19</b>	9	1	8	8	1	7	<b>8.00E-03</b>	5	0.89	101	7435. 7311	-25	11	5	7	10	5	6	<b>3.70E-04</b>	2	0.79	<b>101</b>	
7407. 808 -28	5	2	3	4	1	4	<b>2.50E-04</b>	15	0.39	200	7435. 9401	11	12	1	11	11	1	10	<b>1.37E-03</b>	5	0.91	101	
7407. 90818 0	0	0	0	1	1	1	2.73E-04	3	0.50	002	7435. 9954	-2	<b>12</b>	<b>2</b>	<b>11</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>4.36E-04</b>	3	0.87	<b>101</b>	
7408. 6561 4	8	4	4	8	1	7	4.64E-05	2	65.89	200	7436. 4629	<b>-61</b>	5	3	3	4	4	0	<b>5.27E-06</b>	4	7.76	002	
7408. 70111 -18	5	3	2	5	1	5	<b>5.00E-05</b>	<b>4</b>	0.16	101	7436. 716	22	9	2	8	8	3	5	<b>1.36E-05</b>	4	<b>12.73</b>	002	
7409. 54465 -5	1	1	1	2	0	2	2.55E-04	5	0.54	002	7436. 909	-5	11	3	9	10	3	8	2.1	OE-03	10	1.06	101
7409. 5742 -23	3	3	0	4	2	3	<b>4.66E-05</b>	4	0.30	002	7436. 924	-79	10	4	7	9	3	6	6.1	OE-04	15	3.47	200
7410. 0957 -12	5	4	1	5	2	4	3.50E-05	2	0.14	<b>101</b>	7437. 1445	63	11	3	8	10	1	9	<b>1.14E-04</b>	1090.	68	021	
7411. 0200 23	7	5	2	6	2	5	<b>8.87E-07</b>	15	1.52	120	7437. 19202	-5	10	2	8	9	2	7	<b>5.34E-03</b>	5	0.88	101	
7411. 37654 -4	7	1	7	6	2	4	<b>4.70E-03</b>	7	2551.	002	7437. 284	-90	6	3	3	6	1	6	<b>2.30E-05</b>	15	0.057	101	
7411. 6199 4	7	5	3	7	3	4	<b>9.06E-06</b> </td																

Tab] e 4. continued

observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength	%S	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	lower K <sub>c</sub>	observed strength	%S	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band				
7444. 6953		<b>49</b>	<b>11</b>	2 9	<b>10</b>	2 8	<b>4.71E-04</b>	3 0.68	101	7473. 7120	6	3	2	1	3	1	2	<b>1.50E-03</b>	3 0.49	002			
7445. 1235	2 6	5 1	5 4	2 2	<b>3.18E-05</b>	4 47.85	002	7473. 7682	4	7	6	2	6	5	1	<b>9.20E-05</b>	6 0.45	200					
7445. 5374	1 4 1	1 5 6	1 0 5	5 5	<b>1.12E-04</b>	2 0.74	1.01	101	7473. 8387	<b>-8</b>	<b>7</b>	<b>6</b>	<b>1</b>	6	5	2	<b>2.59E-04</b>	2 0.43	200				
7445. 68288	-4 9	5 5	8 3	6	<b>1.14E-04</b>	9 5.99	021	7473. 931	<b>114</b>	6	6	0	6	4	3	<b>2.30E-06</b>	15 0.073	<b>101</b>					
7445. 8690	-93	<b>11</b>	6 5	<b>10</b>	7 4	<b>7.50E-06</b>	5	002	7473. 96945	0	4	2	2	4	<b>1</b>	3	<b>4.45E-04</b>	3 0.44	0.95	002			
7446. 3036	- 1 8	1 2 3	1 0 1	1 3 9	<b>1.88E-04</b>	4 0.89	101	7474. 852	- 1	5	8	4	4	7	3	<b>3.00E-06</b>	15 0.040	200					
7446. 3566	9 7	4 3	6 5	2	<b>1.03E-04</b>	2 268.0	002	7474. 863	0	9	4	5	9	3	6	<b>1.30E-05</b>	10 0.27	002					
7446. 7189	48	6 5	<b>1</b>	6 2	4	1.1 0E-05	3 5.73	200	7475. 17393	<b>21</b>	<b>12</b>	3	9	<b>11</b>	3	8	<b>2.66E-04</b>	3 0.75	1.03	101			
7446. 8846	-69	4 2	3 3	3 3	0	2.1 0E-05	10 1.94	002	7475. 6315	2	<b>7</b>	<b>6</b>	<b>1</b>	6	4	2	<b>8.40E-06</b>	4 1.24	021				
7446. 9860	- 3	9 5	4 8	6 3	3	3.68E-05	2	002	7476. 2927	<b>1</b>	2	0	2	<b>1</b>	<b>1</b>	<b>1</b>	<b>9.08E-05</b>	3 0.30	1.06002				
7447. 48288	2	<b>10</b>	4 6	9 4	5	<b>1.96E-03</b>	4 0.73	101	7476. 6618	4	3	1	2	3	0	3	<b>1.58E-03</b>	3 0.39	002				
7447. 615	- 3	6 7	4 3	6 3	4	<b>6.43E-06</b>	15 0.006	200	7476. 682	- 6	9	7	6	2	6	4	3	5.00E-06	15 0.25	021			
7448. 1294	0 5 5	0 4	1 3		<b>7.20E-06</b>	4	021	7476. 7595	- 2	2	2	0	2	1	1	<b>3.50E-04</b>	4 0.48	002					
7449. 253	7 6	8 4	4 8	2 7	<b>1.36E-06</b>	15 0.010	101	7476. 9486	-20	12	4	8	11	4	7	<b>1.19E-04</b>	6 0.51	101					
7449. 7760	0 1 2	5 8 1	1 1 5	7	<b>3.58E-05</b>	3 0.760.96	101	7477. 2910	- 4	1	0	5	6	9	3	7	<b>1.00E-05</b>	3 3.70	021				
7450. 0298	-24	<b>4</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	3.1 0E-05	5 7.02	002	7478. 3013	- 3	9	4	6	8	5	3	<b>1.46E-05</b>	2	002		
7450. 9321	5 1 2	2 2 1	0 1 1	1 2 9	<b>4.96E-04</b>	2 0.76	101	7478. 5217	- 9	3	1	2	2	2	1	<b>1.30E-05</b>	10 0.064	002					
7452. 3136	0 1 4 2	1 3 1 3	1 3 2 1	2 2	<b>4.00E-05</b>	10 0.89	101	7478. 6543	5	5	2	3	5	1	4	<b>8.90E-04</b>	3 0.37	002					
7452. 3769	53	<b>14</b>	1 13	13 1	12	<b>1.22E-04</b>	5 0.90	101	7478. 7176	<b>-1</b>	7	3	4	7	2	5	<b>2.40E-04</b>	4 0.47	002				
*7452. 4105	4 2 1	5 1 5 1	1 5 1 4	1 1 4	<b>1.60E-04</b>	3 0.%	101	7478. 8649	-21	4	3	11	1	3	10	<b>1.69E-05</b>	10 0.80	101					
7452. 6183	- 1	3 1 2 4	9 1 1	4 8	<b>8.04E-05</b>	2 0.81	101	7479. 0911	0	1	3	3	1	0	1 2 3 9	6.1 0E-05	6 2.03	101					
7452. 6712	0 6 6	0 5 4	1		<b>1.75E-05</b>	5 0.94	021	7479. 54448	28	6	3	3	6	2	4	<b>1.40E-04</b>	4 0.52	002					
7452. 8979	0 6 6	1 5 4	2		<b>6.15E-06</b>	4 1.00	021	7479. 6356	9	1	1	1	0	0	0	<b>2.97E-04</b>	3 0.43	1.01	002				
7453. 57585	- 6	9 4	6 8	3 5	<b>1.24E-03</b>	6 8.87	200	7479. 7425	<b>31</b>	6	4	3	6	1	6	<b>3.60E-05</b>	3 51.12	200					
'7453. 7220	<b>99</b>	<b>6</b>	<b>6</b>	<b>1</b>	5 5	0	<b>1.81E-03</b>	3 1.02	200	7479. 8103	2	7	1	0	3	8	9	<b>2.65E-05</b>	10 24.98	002			
7454. 44462	- 9	<b>13</b>	3 11	<b>12</b>	3	<b>10</b>	<b>1.58E-04</b>	5 0.86	101	7482. 5210	- 5	1	1	2	9	1	0	<b>3.45E-06</b>	4 3.79	021			
7455. 20672	- 8	5 2	3 4	0 4	<b>1.35E-03</b>	3 0.490.95	101	7482. 562	-361	9	5	5	8	4	4	<b>3.11E-07</b>	15 0.005	200					
7456. 1003	22	<b>13</b>	2 11	<b>12</b>	2	<b>10</b>	<b>5.09E-05</b>	2 0.82	101	7482. 6124	-17	8	3	5	8	2	6	3.60E-05	3 0.38	1.04002			
7456. 4684	-64	6 3	4 5	4 1	<b>4.42E-05</b>	3 26.53	002	7483. 1950	2	4	8	4	4	8	3	<b>1.76E-05</b>	3 0.51	002					
7457. 4041	- 3	6 6	2 4	<b>5</b>	<b>1</b>	<b>5</b>	<b>2.56E-05</b>	5 0.80	200	7483. 763	1	6	7	9	7	3	5	<b>2.30E-06</b>	15 0.52	101			
7457. 5442	- 25	7 5	3 6	4 2	4.40E-05	3 0.12	200	7484. 3422	1	8	5	3	2	5	2	<b>6.41E-04</b>	2 0.55	0.98002					
7457. 6576	-23	5 4	2 5	1 5	<b>1.65E-05</b>	3 35.02	200	7484. 84780	0	1	1	4	7	1	3	<b>9.50E-06</b>	15 1.06	002					
7459. 2290	- 4	7 5	2 6	4 3	<b>1.11E-04</b>	2 0.11	1.03	200	7485. 07975	0	6	3	3	5	1	4	<b>7.07E-03</b>	3 1.00	101				
7459. 3917	- 9	8 2	7 7	3 4	<b>5.55E-04</b>	2 111.9	002	7485. 336	-159	8	3	6	7	4	3	<b>6.00E-05</b>	15 105.2	002					
7459. 4622	0 1 5 2	1 4 1 4	1 4 2 1	3	<b>3.60E-05</b>	5 1.02	101	7485. 349	- 6	6	7	7	0	6	1	<b>5.00E-04</b>	4 1.24	200					
7459. 496	- 1	<b>15</b>	<b>1</b>	<b>14</b>	<b>14</b>	<b>1</b>	<b>1.15E-05</b>	7 0.97	101	7485. 587	7	0	4	4	1	4	0	<b>2.30E-06</b>	15 0.26	101			
*7459. 7341	-155	16 0	16 15	0	<b>4.50E-05</b>	3 1.03	101	7485. 7644	12	8	4	4	7	0	7	<b>7.80E-06</b>	5 2.60	021					
7459. 82978	4 5	3 2	4 1	3	<b>2.80E-03</b>	3 0.%	101	7486. 035	-294	9	7	2	9	5	5	<b>9.00E-07</b>	15 0.60	101					
7460. 1247	10	11	3 9	10	4 6	<b>8.77E-05</b>	4	002	7488. 20490	9	6	2	4	6	1	5	<b>1.84E-04</b>	3 0.34	1.01	002			
7460. 4801	60	5 5	0 5	2 3	<b>9.30E-06</b>	4 4.91	200	7489. 0881	0	1	1	4	8	1	0	<b>1.25E-05</b>	6 3.55	021					
7461. 14205	-15	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1.56E-03</b>	2 0.47	002	7490. 721	- 5	2	2	1	2	1	2	7.79E-04	2 0.39	002			
7461. 3920	-13	5 2	4 4	<b>4</b>	<b>3</b>	<b>1</b>	<b>1.97E-05</b>	3 11.25	0.93	002	7491. 0288	1	3	4	1	3	4	0	3.90E-04	3 0.35	002		
7461. 6627		<b>1</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>5</b>	2 5	2	200	7491. 050	2	4	6	9	3	6	9	2	7	3.1 0E-05	15 0.22	002
7461. 89655	-2	<b>10</b>	<b>3</b>	<b>7</b>	<b>9</b>	<b>3</b>	<b>6</b>	2.55E-03	7 0.62	101	7491. 29488	-23	4	3	<b>1</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2.37E-04</b>	3 0.48	002		
7462. 023	4 4	1 3	5 9	1 2	<b>2.85E-05</b>	15 0.76	101	7491. 3563	-36	10	4	7	9	5	4	<b>2.11E-05</b>	7	002					
7462. 3549	-31	<b>13</b>	4	<b>10</b>	<b>12</b>	<b>4</b>	<b>9</b>	6.44E-05	3 0.79	101	7492. 1701	<b>43</b>	<b>4</b>	<b>4</b>	<b>1</b>	3	1	2	<b>9.88E-05</b>	2 5.78	1.03200		
7462. 5132	0 1 4 2	1 2 1 2	1 3 2 1	2 1 1	<b>4.30E-05</b>	7 0.88	101	7492. 517	- 8	0	8	7	2	8	5	<b>1.27E-06</b>	15 0.58	101					
7462. 8405	- 1	9 1 0	1 5 6	9 6 3	<b>1.90E-05</b>	3	002	7492. 5986	- 6	7	4	3	7	3	4	<b>1.21E-04</b>	3 0.55	002					
7464. 247	- 1	2 4	2 2	3 3	<b>5.00E-06</b>	15 0.43	002	7492. 7696	-35	11	3	9	10	1	10	9.1 0E-06	4 3.34	021					
7464. 7096	2	7 6	2 7	4 3	<b>1.38E-06</b>	3 0.034	101	7492. 8731	-32	8	6	3	7	5	2	<b>2.24E-05</b>	5 0.089	200					
7465. 6079	1 1 2 5	7 1 1 5	6 1 5 6	<b>9.40E-05</b>	4 0.70	101	7493. 074	- 2	5	9	3	7	8	4	<b>3.70E-05</b>	9 122.3	002						
*7465. 9108	0 1 6 1	1 5 1 5	1 5 1 1	4	<b>1.12E-05</b>	3 0.98	101	7493. 261	-163	8	7	<b>1</b>	8	5	4	<b>4.50E-06</b>	10 0.69	101					
*7466. 3368	0 1 7 1	1 7 1 6	1 6 1 1	6	<b>1.20E-05</b>	3 1.16	101	7493. 3456	-33	8	6	2	7	5	3	<b>6.06E-06</b>	2 0.073	<b>200</b>					
7466. 5968	2 5	3 3	3 4	0 4	<b>1.24E-03</b>	6 18.32	200	7495. 56205	-13	4	4	0	3	2	<b>1</b>	<b>8.41E-04</b>	3 0.590.99	<b>101</b>					
7466. 7216	8 2	1 1	1 2	0 2	5.90E-04	4 0.42	002	7496. 3414	- 2	9	6	3	4	5	0	<b>4.23E-04</b>	6 4.81	0.96200					
7467. 7691	0 1 5 3	1 3 1 4	1 3 1 2		<b>1.11E-05</b>	5 0.96	101	7496. 414	- 3	6	6	5	2	6	2	<b>5.00E-06</b>	15 6.95	200					
7468. 3888																							

Table 4. continued

observed position	o-c	upper	J	K <sub>a</sub>	K <sub>c</sub>	lower	J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper	J	K <sub>a</sub>	K <sub>c</sub>	lower	J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	R <sub>1</sub> <sup>b</sup>	R <sub>2</sub> <sup>b</sup>	band
7500. 4715	- 7 5 4 2 5 0 5	<b>1.85E-05</b>	6	0.33	101	7527. 142	- 4 3 6 2 4	5	3	3	<b>2.24E-06</b>	3	0.066	002															
7501. 1077	7 1 2 3 9 1 1 1 1 0	<b>3.86E-06</b>	3	3.57	021	7527. 5369	- 14 6 4 3	5	<b>1</b>	4	<b>3.33E-04</b>	5	4.48	200															
7501. 33762	0 4 4 1 3 2 2	<b>2.40E-04</b>	3	0.52	101	7527. 8863	38 10 6 4	9	4	5	<b>9.80E-06</b>	10	2.47	021															
7501. 5936	20 7 2 5 7 1 6	<b>2.66E-04</b>	4	0.28	002	7528. 0918	- 8 2 2 1	1	1	0	<b>1.31E-03</b>	3	0.41	002															
7501. 9275	- 1 7 6 4 2 6 3 3	6. 77E-05	4	0.46	002	7529. 5816	- 1 8 5 3	7	1	6	2. 53E-05	5	6. 50	021															
7502. 615	- 4 0 9 4 5 8 5 4	<b>1.52E-05</b>	10	17. 12	002	7530. 9426	- 6 2 5	6	1	6	<b>5.43E-04</b>	2	0.36	002															
7502. 624	- 5 1 0 3 7 1 0 2 8	<b>4.35E-06</b>	10	0.23	002	7530. 9741	- 4 2 8 3	6	8	2	7	<b>1.37E-04</b>	7	0.35	002														
7502. 8355	54 8 6 2 8 3 5	5. 05E-06	3	17. 41	200	7533. 03329	4 5 1 4	4	2	3	<b>1.21E-04</b>	2	0.24	0.94	002														
7503. 364	-112 3 3 1 3 2 2	<b>2.20E-04</b>	15	0.43	002	7533. 9556	-15 9 5 5	9	2	8	<b>3.98E-06</b>	7		200															
7504. 4021	- 5 3 7 3 4 6 4 3	2. 90E-05	3	2. 33	002	7534. 251	3 5 6 6 0	6	3	3	<b>1.45E-06</b>	3		200															
7504. 71491	10 5 3 3 4 1 4	<b>2.13E-03</b>	3	0.73	0.94	101	7534. 7985	1 7 2 2 0	1	1	1	<b>4.08E-04</b>	3	0.39	0.98002														
7504. 941	9 4 3 2 4 2 3	<b>7.00E-04</b>	10	0.38	002	7535. 3027	- 20 5 0 5	<b>4</b>	<b>1</b>	<b>4</b>	<b>2.23E-04</b>	2	0.23	0.97002															
*7504. 944	9 6 8 7 2 7 6 1	<b>4.60E-05</b>	5	0.28	200	7536. 03783	- 2 7 4 3	6	2	4	<b>6.69E-04</b>	2	1.05	0.97	101														
7506. 7797	- 2 9 4 1 3 3 2 2	<b>1.80E-05</b>	6	0.13	002	7537. 556	- 6 1 1 1 6 5	1 0 4 6	2.1	0E-06	10		021																
7507. 1092	1 6 7 4 4 7 1 7	4. 40E-06	5		200	7537. 7806	27 8 3 5	7	4	4	4. 97E-06	3	1. 13	002															
7507. 4653	- 1 9 4 2 3 4 1 4	<b>9.36E-04</b>	2	0.36	002	7538. 5889	2 7 3 5 6	0	6	<b>1.65E-05</b>	4	2. 50	200																
7508. 0475	-13 5 1 4 5 0 5	<b>7.80E-04</b>	4	0.31	002	7538. 8501	5 5 1 5 4	0	4	<b>8.68E-05</b>	4	0.29	002																
7508. 1535	-26 8 5 3 8 4 4	<b>8.50E-06</b>	7	0.36	002	7539. 56925	-12 7 1 6 7	0	7	<b>2.60E-04</b>	3	0.260.	96002																
7508. 303	199 9 7 2 9 6 3	<b>1.95E-06</b>	8	0.23	002	7541. 6074	-44 12 2 10	11	0	11	<b>1.50E-06</b>	15	1. 68	021															
7508. 3897	67 5 3 3 5 2 4	<b>2.00E-04</b>	5	0.37	002	<b>7541. 99423</b>	- 20 6 5 2	<b>5</b>	<b>1</b>	<b>5</b>	<b>1.90E-04</b>	2		0.90021															
7508. 7865	2 2 5 4 2 4 1 3	<b>7.95E-05</b>	4	4.57	200	7543. 833	1 4 6 3 4	5	1	5	<b>2.40E-04</b>	7	0.37	101															
7509. 1577	-18 5 4 1 5 3 2	<b>2.83E-04</b>	3	0.390.	93	7543. 833	- 6 4 1 0 2 8	1 0 1 9	<b>1.20E-05</b>	15	0.40	002																	
7510. 4167	15 7 2 5 6 1 6	<b>1.26E-05</b>	15	0.59	200	7543. 9180	- 2 7 2 6	7	1	7	9. 20E-05	5	0.30	002															
7510. 5251	9 5 4 1 4 2 2	5. 1	0E-04	4	0.71	101	7544. 4647	<b>31</b> 9 3 7	9	2	8	<b>1.40E-05</b>	7	0.23	002														
7511. 2947	1 0 6 2 4 5 0 5	2. 93E-03	8	0.83	101	7545. 21083	0 3 2 2	<b>2</b>	<b>1</b>	<b>1</b>	<b>3.46E-04</b>	2	0.46	<b>0.99</b>	002														
7511. 9255	5 3 1 3 2 0 2	<b>2.62E-04</b>	2	0.41	002	7545. 7064	- 1 7 7 6 2	7	3	5	<b>2.77E-06</b>	5		200															
7512. 2679	-30 11 5 7 10 3 8	<b>8.00E-06</b>	4	2.73	021	<b>7545. 9910</b>	- 5 2 1 0 4 6	9 3 7	<b>1.56E-06</b>	15	1. 27		002																
7512. 9090	- 1 8 6 4 3 6 3 4	2. 1	0E-04	3	0.34	1. 03	002	7546. 4114	3 1 0 3 8 1	0 2 9	1. 30E-05	2	0.16	002															
7513. 1975	26 7 4 4 7 3 5	<b>4.11E-05</b>	3	0.32	002	7546. 5929	- 6 8 6 3	8	3	6	<b>9.20E-06</b>	3		200															
7513. 645	- 9 4 4 0 4 3 1	<b>9.35E-05</b>	10	0.37	002	7546. 8186	- 4 6 6 1	6	3	4	<b>4.47E-06</b>	6		200															
7513. 652	5 5 4 2 5 3 3	<b>9.35E-05</b>	10	0.33	002	7546. 906	-126 10 6 5	9	4	6	<b>2.20E-06</b>	10	1. 65	021															
7513. 8988	-9 6 3 4 6 2 5	<b>4.00E-04</b>	2	0.35	0.94	7547. 244	0 1 2 3 1 0	1 1 1 1 1	<b>6.48E-07</b>	15	2. 16	021																	
7514. 0368	22 9 5 5 9 4 6	<b>4.44E-06</b>	4	0.31	002	<b>7549. 1599</b>	<b>41</b> 7 4 4	7	0	7	<b>2.04E-05</b>	7	0.60	101															
7514. 0840	- 2 0 1 0 4 6 1 0 2 9	<b>1.95E-06</b>	10	0.23	101	7350. 6826	1 7 7 4 4	<b>6</b>	<b>1</b>	<b>5</b>	<b>1.04E-04</b>	3	5. 88	0.94	200														
7514. 278	1 2 9 6 3 8 4 4	<b>5.30E-06</b>	4	1.91	021	7551. 0907	- 6 6 4 3	5	2	4	<b>2.94E-04</b>	8	0.51	101															
7514. 850	- 2 8 4 5 8 3 6	<b>6.00E-05</b>	4	0.30	002	7551. 2457	- 49 6 0 6	5	<b>1</b>	<b>5</b>	<b>8.83E-05</b>	3	0.52	002															
7514. 9291	11 4 4 1 4 3 2	<b>2.66E-04</b>	3	0.33	0. 96002	7551. 4418	<b>21</b> 11 3 9	<b>11</b>	2	<b>10</b>	<b>1.76E-06</b>	10	0.18	002															
7515. 089	1 0 1 1 3 8 1 1 2 9	<b>4.85E-06</b>	5	0.24	002	7552. 44268	4 8 4 4	7	2	5	<b>1.47E-03</b>	2	1. 19	101															
7515. 1735	5 7 5 2 7 4 3	5. 29E-05	4	0.32	002	7552. 5053	- 15 6 1 6	5	0	5	<b>1.22E-04</b>	3	0.26	002															
*7515. 274	-54 8 8 1 8 7 2	9. 1	0E-07	5	0.15	002	7552. 807	-362 9 4 5	8	0	8	<b>1.02E-06</b>	15	3. 34	021														
7515. 9552	- 1 7 1 0 6 5 1 0 5 6	<b>1.36E-06</b>	4	0.18	002	7554. 4133	<b>-14</b> 8 1 7	8	0	8	<b>4.77E-05</b>	7	0.27	002															
7515. 9944	- 3 6 8 5 4 8 4 5	<b>2.68E-05</b>	3	0.28	002	7555. 0065	0 1 1 2 9 1	1 1 1 1 0	<b>7.12E-06</b>	2	0.22	002																	
7516. 5593	-12 8 2 6 8 1 7	<b>4.30E-05</b>	5	0.26	002	7556. 3533	-28 6 1 5	5	2	4	<b>1.28E-04</b>	4	0.96	002															
7517. 3687	63 8 3 5 8 1 8	<b>6.55E-06</b>	8	0.21	101	7556. 8281	- 6 6 7 2 5	6	3	4	<b>4.12E-06</b>	3	0.042	002															
7517. 3916	1 2 9 6 3 9 5 4	<b>2.70E-06</b>	3	0.15	002	7557. 3167	0 8 3 5	7	1	6	<b>1.24E-03</b>	5	0.91	101															
7517. 79951	- 5 7 3 4 6 1 5	<b>1.20E-03</b>	3	0.98	101	7557. 5857	- 4 8 2 7 8	1	8	<b>1.50E-04</b>	3	0.29	0.94	002															
7517. 92064	0 1 4 4 1 0 1 3 4 9	<b>6.80E-05</b>	6	5.71	101	7558. 9381	2 4 2 3 3	1	2	<b>6.87E-04</b>	4	0.49	002																
7517. 9810	-59 9 4 6 9 3 7	<b>9.70E-06</b>	15	0.30	002	7559. 6556	48 5 4	<b>1</b>	4	1	<b>7.60E-05</b>	3	17. 72	1. 06200															
7518. 0414	- 8 4 0 4 3 1 3	<b>1.09E-04</b>	3	0.23	002	7560. 1175	<b>-111</b> 7 7 0	6	5	1	<b>1.15E-06</b>	5	0.69	021															
7518. 3454	4 7 5 3 7 4 4	1. 7X-05	5	0.28	002	7560. 1527	1 6 7 7 1	6	5	2	<b>3.48E-06</b>	3	0.70	021															
7518. 6090	- 1 6 5 2 4 5 1 5	<b>2.37E-04</b>	3	0.34	1. 08002	7561. 26385	1 7 2 5	6	0	6	<b>3.18E-04</b>	8	0.68	101															
7519. 480	- 9 9 6 4 9 5 5	9. 27E-07	10	0.14	002	7562. 1256	- 2 5 5 0	4	3	1	<b>7.09E-05</b>	3	0.38	0. 95	101														
7519. 6572	<b>1</b> 6 5 1 6 4 2	<b>2.70E-05</b>	3	0.28	002	7562. 2566	-20 9 3 6	9	1	9	<b>3.75E-06</b>	9	1. 45	101															
7520. 0807	-23 7 6 1 7 3 4	<b>1.02E-05</b>	3	18. 45	200	7563. 45010	13 5 5 1	4	3	2	<b>2.07E-04</b>	4	0.37	101															
7520. 6033	35 6 4 3 6 0 6	<b>3.30E-05</b>	7	1.83	101	7566. 1269	-34 10 5 6	10	2	9	<b>7.22E-06</b>	7		200															
7520. 6528	- 1 9 6 5 2 6 4 3	<b>8.25E-05</b>	3	0.28	002	7567. 4656	7 6 6 3 0	-3 8 9 2 8 9 1 9	<b>1.55E-05</b>	8	0.18	002																	
7521. 4167	7 7 3 5 7 2 6	<b>8.22E-05</b>	3	0.35	002	7567. 4535	- 1 7 1 7 6	6	0	6	<b>1.46E-04</b>	8	2. 18	002															
7521. 688	15 8 6 2 8 5 3	<b>2.60E-06</b>	15	0.18	002	7567. 58138	0 3 2 1	2	1	2	<b>7.68E-04</b>	3	0.35	0.97002															
7522. 3632	135 5 5 0 5 4 1	<b>9.50E-05</b>	3	0.30	002	7567. 8613	- 1 3 9 1 8	9	0	9	7.90E-05	10	0.30	002															
7522. 5256	- 1 1 1 0 4 7 1 0 3 8	<b>8.55E-06</b>	7	0.21	002	7569. 73763	2 5 2 4	<b>4</b>	<b>1</b>	<b>3</b>	<b>1.32E-04</b>	2	0.54	002															
7522. 5830	- 2 7 5 5 1 5 4 2	<b>3.16E-05</b>	5	0.29	002	7569. 8710	1 9 9 5 4	8	1	7	<b>4.03E-06</b>	4	5. 21	021															
*7522. 6330	168 7 7 0 7 6 1	<b>5.50E-06</b>	3	0.17	002	7570. 2607	17 9 3 6	8	4	5	<b>5.95E-06</b>	3	0.56	002															
7523. 16407	18 6 4 2 5 2 3	<b>2.00E-03</b>	3	0.88	101	7570. 9565	- 3 8 4 4 0	3	0	3	<b>7.20E-06</b>	6	0.18	101															
7523. 253	213 9 6 4 8 4 5	<b>1.50E-05</b>	15	1.77	021</																								

Table 4. continued

observed position o-c	upper J K <sub>a</sub> K <sub>c</sub>	observed strength %	R <sub>1</sub> <sup>a</sup> R <sub>2</sub> <sup>b</sup>	band	observed position o-c	upper J K <sub>a</sub> K <sub>c</sub>	lower J K <sub>a</sub> K <sub>c</sub>	observed strength %	R <sub>1</sub> <sup>a</sup> R <sub>2</sub> <sup>b</sup>	band
7579. 5075 -18	8 4 5 7 1 6	<b>2.47E-04</b>	3 13. 91	200	7633. 2832 4	6 5 1	5 2 4	<b>6.30E-06</b>	4 11. 05	200
7579. 7831 7	1 0 2 9 10 10	<b>2.95E-05</b>	5 0. 26	002	7633. 7774 -21	5 4 2	4 3 1	<b>3.02E-04</b>	2 0. 48	1. 08002
7581. 5120 -47	1 0 1 9 10 0	<b>1.04E-05</b>	6 0. 27	002	7634. 1648 -12	8 3 6	7 2 5	<b>8.50E-05</b>	4 2. 12	0. 99002
7581. 636 -626	5 5 0 5 0 5	<b>3.37E-07</b>	15	200	7635. 4528 -31	5 4 1	4 3 2	<b>9.22E-04</b>	2 0. 460	0. 98002
7582. 49170 3	7 4 4 6 2 5	<b>9.13E-04</b>	4 0. 79 0. 96	101	7635. 6212 7	6 3 3	6 0 6			002
7583. 2736 -24	8 3 6 7 0 7	<b>1.83E-05</b>	5 2. 38 1. 00200		7636. 3261 14	13 0 13	12 1 12	<b>4.44E-06</b>	5	002
7583. 523 -51	9 4 6 9 1 9	<b>4.60E-06</b>	8	200	7638. 124 8	10 3 8	9 2 7	<b>3.85E-06</b>	9 1. 82	002
7' 583. 9511 -5	8 7 1 7 5 2	<b>4.00E-06</b>	15 0. 84	021	7638. 1611 -22	7 6 1	6 4 2	<b>1.46E-05</b>	3 0. 24	' 101
7583. 9899 24	6 5 2 5 3 3	<b>1.13E-04</b>	3 0. 49	101	7638. 6088 -32	11 3 9	10 2 8	<b>1.12E-05</b>	4	002
7584. 140 5	8 7 2 7 5 3	<b>1.60E-06</b>	5 1. 01	021	7639. 2218 -13	7 6 2	6 4 3	4. 30E-05	4 0. 23	101
7585. 022 8	4 3 1 4 0 4	<b>5.80E-06</b>	10 0. 12	002	7639. 5756 -15	3 3 1	2 0 2	<b>5.70E-06</b>	15 0. 33	002
7585. 39300 -3	7 3 5 6 1 6	<b>8.77E-04</b>	2 0. 84	101	7640. 7643 -7	10 4 7	9 1 8	<b>3.60E-05</b>	1022. 34	200
7587. 4913 -11	7 2 6 6 1 5	<b>3.06E-05</b>	2 0. 65 0. 99	002	7641. 9377 -43	9 3 7	8 2 6	<b>1.47E-05</b>	9 4. 67	002
7588. 8687 -24	8 1 7 7 2 6	<b>2.11E-06</b>	3 0. 075	002	<b>7644. 3265</b> -15	6 4 2	5 0 5	<b>2.38E-05</b>	3 0. 20	101
7591. 3253 -5	9 0 9 8 1 8	<b>8.50E-06</b>	3 0. 39	002	7644. 5638 30	5 5 1	4 4 0	<b>2.62E-04</b>	5 0. 40	002
7591. 475 -111	9 1 9 8 0 8	<b>2.80E-06</b>	15 0. 38	002	7644. 5960 65	5 5 0	4 4 1	<b>8.03E-04</b>	2 0. 41	002
7592. 4305 29	7 5 3 6 1 6	<b>3.35E-05</b>	5 76. 76	021	7645. 7216 0	14 1 14	13 0 13	1. 10E-06	10	002
7592. 5587 -5	7 5 2 6 3 3	<b>1.26E-04</b>	2 0. 67 0. 90	101	7647. 259 796	8 5 4	7 1 7	<b>2.22E-06</b>	<b>15</b>	021
7593. 14688 0	4 3 2 3 2 1	<b>1.13E-03</b>	3 0. 470	96002	7648. 4783 -64	11 4 7	10 2 8	1. 10E-05	10 0. 65	101
7597. 5344 3	8 2 7 7 1 6	<b>7.40E-05</b>	3 1. 38	002	7649. 3415 -24	7 4 3	6 1 6	<b>2.80E-05</b>	727. 48	200
7598. 433 395	8 7 2 8 4 5	<b>1.03E-06</b>	15	200	7650. 1277 9	9 4 6	8 2 7	<b>2.71E-04</b>	3 1. 02 0. 98	101
7599. 5765 0	9 3 6 8 1 7	<b>8.80E-05</b>	8 0. 61	<b>101</b>	7651. 37W 7	12 5 7	11 3 8	<b>1.75E-05</b>	3 1. 41 0. 92	101
7600. 77345 21	<b>4 3 1</b> 3 2 2	<b>3.81E-04</b>	3 0. 40 0. 96	002	<b>7651. 7944</b> -3	9 5 5	8 3 6	<b>1.60E-04</b>	3 0. 91 0. 94	101
7601. 2944 -28	6 4 2 5 1 5	<b>1.86E-05</b>	333. 94	200	<b>7653. 0759</b> 9	6 4 3	5 3 2	<b>5.00E-04</b>	3 0. 570	0. 93 002
7602. 35147 2	8 5 3 7 3 4	<b>3.39E-04</b>	4 0. 90	101	<b>7653. 2733</b> -10	5 2 3	4 1 4	<b>2.34E-04</b>	3 0. 283	0. 27002
7602. 4295 -11	9 1 8 8 2 7	3. 10E-06	15 0. 12	002	<b>7654. 15556</b> 10	8 6 2	7 4 3	<b>5.25E-05</b>	2 0. 40	101
7602. 8155 38	6 5 2 5 2 3	<b>1.67E-05</b>	3 2. 38 1. 01	200	<b>7657. 6715</b> 19	8 6 3	7 4 4	<b>1.72E-05</b>	3 0. 39	101
7603. 5743 14	10 0 10 9 1 9	3. 65E-06	3 1. 04	002	<b>7657. 8398</b> 1	10 5 6	9 2 7	<b>1.84E-05</b>	10 8. 91	200
7603. 6250 -33	10 1 10 9 0 9	<b>1.03E-05</b>	4 0. 98	002	<b>7659. 5089</b> 46	6 4 2	5 3 3	<b>1.66E-04</b>	2 0. 46	0. 89002
7' 603. 895 90	9 2 7 8 3 6	<b>2.70E-06</b>	15 0. 089	002	<b>7663. 0422</b> -29	7 5 2	6 2 5	<b>2.04E-05</b>	3 23. 71	1. 03200
7603. 983 -8	9 2 8 8 1 7	<b>2.30E-06</b>	10 0. 40	002	<b>7665. 7361</b> -5	10 3 7	9 1 8	<b>1.16E-04</b>	8 0. 91	101
7604. 2515 -32	5 4 1 4 0 4	<b>7.33E-06</b>	4 0. 21	101	<b>7666. 1083</b> -64	6 3 3	5 2 4	<b>1.21E-04</b>	2 0. 36	002
<b>7604. 99785</b> 5	7 5 3 6 3 4	<b>3.60E-04</b>	6 0. 64	101	<b>7666. 8280</b> -23	9 6 3	8 4 4	<b>1.36E-05</b>	4 0. 56	101
7605. 2940 -1	1 0 4 7 10 1 10	<b>2.60E-06</b>	10 6. 68	200	<b>7667. 03685</b> 26	6 5 2	5 4 1	<b>4.77E-04</b>	3 0. 47	002
7605. 5045 -28	5 3 2 5 0 5	<b>1.28E-05</b>	3 0. 084	002	<b>7667. 32278</b> -19	6 5 1	5 4 2	<b>1.64E-04</b>	3 0. 480	0. 95 002
7605. 79673 -2	<b>10 4 6</b> 9 2 7	<b>2.55E-04</b>	3 1. 31	101	<b>7668. 2944</b> -11	1 0 2 8	9 1 9	<b>1.38E-06</b>	15 1. 36	200
7606. 525 520	9 7 2 8 5 3	<b>1.20E-06</b>	10 1. 19	021	<b>7668. 3425</b> -15	7 4 4	6 3 3	<b>7.60E-05</b>	4 0. 74	002
7606. 6280 12	5 5 0 4 2 3	<b>9.63E-06</b>	2 7. 56	200	<b>7668. 5412</b> -38	4 3 2	3 0 3	<b>6.00E-05</b>	8 0. 38	002
7607. 1881 7	4 2 2 <b>3 1</b> 3	<b>1.53E-04</b>	6 0. 33	002	<b>7668. 5685</b> 41	9 2 7	8 0 8	<b>7.22E-05</b>	4 1. 00	101
7607. 264 132	9 7 3 8 5 4	<b>3.60E-06</b>	6 1. 19	021	<b>7671. 69780</b> 97	6 6 1	5 5 0	<b>4.27E-04</b>	3 0. 390	0. 91 002
7608. 8182 -2	5 3 3 4 2 2	2. 10E-04	10 0. 55	002	<b>7673. 0100</b> -19	1 0 3 8	9 0 9	<b>4.80E-06</b>	6 3. 48	200
7610. 2236 9	9 5 4 8 3 5	<b>7.63E-05</b>	3 1. 070	88	<b>7675. 5497</b> 2	1 0 6 4	9 4 5	<b>2.63E-05</b>	4 0. 79	101
7612. 0273 -1	4 4 1 3 3 0	<b>1.42E-03</b>	3 0. 42	002	<b>7675. 6307</b> 13	9 3 7	8 1 8	<b>1.97E-04</b>	3 0. 970	0. 91 101
7612. 2681 -14	4 4 0 3 3 1	4. 5*0-04	5 0. 40	002	<b>7675. 9328</b> -24	9 6 4	8 4 5	<b>3.92E-05</b>	3 0. 53	0. 96 101
7612. 5514 16	7 5 3 6 2 4	<b>5.27E-06</b>	15 1. 42	200	<b>7678. 6093</b> -7	8 4 5	7 3 4	<b>9.87E-05</b>	4 1. 18	002
7614. 5837 32	8 4 5 7 2 6	<b>1.85E-04</b>	5 0. 91	101	<b>7678. 274</b> -14	10 5 6	9 3 7	<b>2.44E-05</b>	5 1. 00	101
7615. 1218 0	11 0 11 10 1 10	<b>8.50E-06</b>	3 1. 86	002	<b>7680. 7401</b> -15	11 6 5	10 4 6	<b>4.58E-06</b>	2 1. 02	101
7615. 1498 0	11 1 11 10 0 10	<b>2.87E-06</b>	6 1. 89	002	<b>7681. 416</b> -763	9 8 2	8 6 3	<b>1.23E-06</b>	10 1. 05	021
7615. 2531 -29	1 0 2 9 9 1 8	<b>3.81E-06</b>	7 0. 92	002	<b>7684. 0553</b> 4	9 4 6	8 3 5	<b>1.15E-05</b>	2 2. 01	002
7615. 658 -138	1 0 1 9 9 2 8	<b>1.22E-06</b>	15 0. 63	002	<b>7684. 2678</b> -22	<b>12</b> 6 6	11 4 7	<b>5.50E-06</b>	<b>5 1.14</b>	101
7616. 32013 3	8 2 6 7 0 7	<b>5.47E-04</b>	2 0. 980	95	<b>7685. 234</b> -50	11 4 8 10	<b>3 7</b>	<b>1.30E-06</b>	<b>15</b>	002
7617. 5335 16	1 0 5 5 9 1 8	<b>6.00E-06</b>	10 6. 42	021	<b>7685. 2924</b> -14	<b>12 4 8 11 2 9</b>	<b>1 31E-05</b>	<b>6 1.14</b>		101
7617. 620 -215	9 2 7 8 1 8	<b>1.08E-06</b>	15 0. 31	200	<b>7685. 7548</b> -11	10 4 7	9 3 6	<b>1.01E-05</b>		002
7618. 512 -48	5 4 1 5 1 4	<b>4.00E-06</b>	3 0. 10	002	<b>7685. 9767</b> 10	7 4 3 6 3 4 2		6. 6 E -0 4 4 0 . 4 9		002
7619. 0723 12	1 0 5 5 9 3 6	<b>1.35E-04</b>	4 1. 29	101	<b>7686. 9852</b> -7	6 6 1	5 3 2	<b>9.70E-06</b>	232. 87	200
7620. 3002 55	6 3 4 5 2 3	<b>3.81E-04</b>	4 0. 84	002	<b>7688. 3090</b> -8	7 5 3	6 4 2	8. 70E-05	10 0. 59	002
7620. 5401 -16	6 6 1 5 4 2	<b>9.75E-06</b>	2 0. 17	101	<b>7688. 4532</b> -7	<b>10 4 7</b>	9 2 8	<b>3.70E-05</b>	10 1. 11	101
7620. 5706 -22	6 4 2 6 1 5	<b>1.40E-06</b>	5 0. 068	002	<b>7688. 5198</b> 8	6 5 1	5 1 4	<b>1.39E-06</b>	4 0. 056	101
7620. 6205 0	1 0 2 8 9 3 7	<b>6.80E-07</b>	7 0. 21	002	<b>7688. 586</b> -790	8 7 1	7 5 2	<b>4.74E-07</b>	15 0. 012	101
7620. 84320 -1	9 4 6 8 1 7	<b>7.64E-05</b>	4 57. 81 1. 00	200	<b>7689. 6858</b> 0	7 5 2 6	4 3 3	<b>2.65E-04</b>	3 0. 560	0. 95 002
7622. 0937 -24	8 5 4 7 2 5	<b>6.90E-06</b>	9 0. 60	200	<b>7690. 995</b> 36	5 4 2	5 1 5	<b>1.16E-06</b>	15 0. 29	002
7625. 3682 12	9 3 7 8 0 8	<b>1.26E-06</b>	15 <b>1.14</b>	200	<b>7691. 8316</b> 18	6 6 0	5 3 3	<b>3.29E-06</b>	2	200
*7626. 0477 -219	12 1 12 11 0 11	<b>7.25E-06</b>	5 3. 03	002	<b>7692. 1148</b> 2	7 4 3	6 0 6	<b>4.25E-06</b>	6 0. 16	101
7627. 1697 0	11 2 10 1 0 1 9	<b>2.20E-06</b>	15 4. 27	002	<b>7693. 7679</b> 0	7 7 0	6 6 1	<b>1.30E-04</b>	3 0. 38	002
7627. 3553 -24	8 5 4 7 3 5	<b>8.54E-05</b>	2 0. 73	101	<b>7694. 8125</b> 0	1 0 6 5	9 4 6	<b>7.80E-06</b>	6 0. 70	101
7628. 2516 23	7 3 5 6 2 4	5. 64E-05	<b>5 1.14</b>	002	<b>7695. 3720</b> 89	7 6 2	6 5 1	5. 50E-05	10 0. 44	002
7629. 074 -33	1 0 4 6 9 0 9	<b>1.17E-06</b>	<b>15</b>	021	<b>7695. 4146</b> -7	7 6 1	6 5 2	<b>1.67E-04</b>	4 0. 44	002
7629. 473 157	1 0 7 4 9 5 5	<b>7.34E-07</b>	<b>15</b>	021	<b>7696. 9742</b> 36	8 5 3	7 2 6	3. 80E-06	8	200
7629. 7289 -7	8 3 6 7 1 7	<b>1.48E-04</b>	<b>2 0. 91 0. 95</b>	101	<b>7700. 8520</b> 2	7 6 2 6 3 3 4	. 8 1	E -0 6 6		200
7630. 49049 9	5 3 2 4 2 3	<b>7.03E-04</b>	2 0. 40 0. 96	002	<b>7702. 5420</b> 17</td					

**Table 4. continued**

observed position	o-c	upper J	K <sub>a</sub>	Kc	lower J	K <sub>a</sub>	Kc	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band	observed position	o-c	upper J	K <sub>a</sub>	Kc	lower J	K <sub>a</sub>	Kc	observed strength %s	R <sub>1</sub> <sup>a</sup>	R <sub>2</sub> <sup>b</sup>	band		
7705.105	-225	9	7	2	8	5	3	<b>6.97E-07</b>	15	0.086	101	7768.1310	-5	11	2	9	10	0	10	<b>8.40E-06</b>	3	0.91	101		
7705.8920	2	9	7	3	8	5	4	<b>2.20E-06</b>	60.090		101	<b>7768.4877</b>	23	11	3	9	10	1	10	2.90E-05	3	1.080	94	101	
7707.4656	-5	6	8	5	4	7	4	3	<b>1.15E-04</b>	4	0.71	002	7769.3836	10	9	4	5	8	1	8	<b>1.65E-06</b>	6	1.13	200	
7708.2162	12	7	3	4	6	2	5	<b>1.78E-04</b>	2	0.34	0.98002	7770.5114	-65	12	4	9	11	2	10	<b>4.22E-06</b>	4	1.31	101		
7708.3225	58	11	5	7	10	3	8	<b>2.85E-05</b>	3	1.12	0.95	101	7771.6315	0	1	0	8	2	9	6	3	6.30E-06	7	1.75	101
7710.3525	19	8	6	3	7	3	4	<b>6.03E-06</b>	15	5.32	200	7771.7855	0	1	0	8	3	9	6	4	2.26E-06	8	1.89	101	
*7711.1505	0	8	8	1	7	7	0	3.07E-05	5	0.37	002	7773.682	-84	7	7	0	6	4	3	2.00E-06	15		200		
7711.203	110	7	5	2	6	1	5	<b>1.35E-06</b>	15	0.096	101	7774.888	-48	13	5	9	12	3	10	<b>3.03E-06</b>	4	1.53	101		
7712.1855	10	8	5	3	7	4	4	<b>4.15E-05</b>	3	0.63	0.98002	7777.487	-381	9	5	4	8	1	7	<b>1.07E-06</b>	10	0.13	101		
7713.4586	-2	7	7	6	1	6	3	4	<b>1.80E-05</b>	264.24		200	7781.4973	93	11	6	5	10	5	6	<b>6.02E-06</b>	2	1.06	002	
7714.8117	-35	11	3	8	10	1	9	<b>1.28E-05</b>	3	1.04	101	7784.3288	50	7	3	5	6	0	6	<b>1.92E-05</b>	2	0.35	1.00002		
7715.0203	-1	11	6	6	10	4	7	<b>1.11E-05</b>	3	0.86	101	7786.9855	-30	7	4	4	6	1	5	<b>1.17E-05</b>	2	0.40	002		
7716.6579	-25	8	4	4	7	3	5	<b>3.44E-05</b>	4	0.40	002	7789.9003	-1	5	8	7	2	7	4	<b>2.50E-06</b>	7		200		
7716.802	149	11	2	9	10	1	10	<b>2.52E-06</b>	15	1.31	200	7793.1320	37	5	4	1	4	1	4	3.43E-06	2	0.17	002		
7717.7114	-50	8	6	3	7	5	2	9.1	0E-05	3	0.59	1.02002	7793.395	2	5	8	7	1	7	4	<b>8.00E-07</b>	10		200	
7717.9528	5	8	6	2	7	5	3	3.03E-05	3	0.58	1.02	002	7804.6098	-2	12	4	8	11	0	11	<b>1.61E-06</b>	10		021	
7718.9444	-81	10	2	8	9	0	9	8.05E-05	5	1.01	101	7807.3687	-16	9	3	6	8	2	7	3.	<b>0.01E-05</b>	2	0.30	0.99002	
7720.0143	-13	10	7	3	9	5	4	2.23E-06	3	0.19	101	7810.9500	0	13	3	11	12	0	12	<b>8.97E-07</b>	10		200		
7721.461	4	0	8	3	5	8	0	8	<b>4.74E-07</b>	15	0.082	002	7812.558	248	13	4	10	<b>12</b>	2	11	<b>4.39E-06</b>	10	1.70	101	
7722.1348	-29	10	3	8	9	1	9	2.69E-05	3	1.04	1.01	101	7812.9708	12	8	2	6	7	1	7	<b>1.28E-05</b>	2	0.29	002	
7723.1459	-7	9	5	5	8	4	4	<b>1.63E-05</b>	2	1.06	0.93	002	7814.2550	15	12	3	10	11	1	11	3.1	0E-06	6	1.10	101
7724.0800	-1	0	4	4	1	3	1	2	3.66E-06	2	0.26	002	<b>7814.486</b>	-49	12	2	10	11	0	11	9.1	0E-06	10	1.04	101
*7724.3717	0	9	9	0	8	8	1	<b>6.30E-06</b>	3	0.40	002	7816.7517	-25	8	4	5	7	1	6	<b>2.84E-05</b>	3	0.380	9.7002		
*7727.2026	-2	8	8	0	7	6	1	<b>2.77E-05</b>	3	2.56	101	7818.260	-23	8	5	4	7	0	7	<b>1.45E-06</b>	3		200		
7728.033	0	9	7	3	8	6	2	<b>2.69E-06</b>	7	0.21	002	7819.4%	87	7	6	2	6	1	5	7.3	E-06	15		200	
7728.0726	<b>0</b>	9	7	2	8	6	3	<b>7.75E-06</b>	7	0.20	002	7822.910	-176	10	5	5	9	1	8	<b>9.46E-07</b>	15	0.098	101		
7728.8585	-3	11	4	8	10	2	9	<b>3.83E-05</b>	4	1.17	101	7830.3308	-41	8	3	6	7	0	7	3.40E-05	7	0.33	0.98002		
<b>7733.9884</b>	4	10	5	6	9	4	5	<b>1.74E-05</b>	3	1.84	0.95	002	7830.8668	-40	6	5	2	5	2	3	<b>2.37E-06</b>	6	0.24	002	
7735.8893	31	9	5	4	8	4	5	<b>5.21E-05</b>	3	0.670	0.99	002	7843.315	-87	7	5	3	6	2	4	<b>1.40E-06</b>	15	0.33	002	
7736.1841	13	<b>9</b>	<b>5</b>	<b>4</b>	8	2	7	<b>5.57E-06</b>	2	16.89	200	7848.4955	<b>61</b>	8	6	3	7	1	6	<b>1.76E-06</b>	15		200		
7736.2985	<b>15</b>	<b>8</b>	<b>6</b>	<b>2</b>	7	3	5	<b>6.83E-06</b>	3		200	7851.2778	3	<b>14</b>	3	11	13	1	12	<b>1.14E-06</b>	15	1.73	101		
7737.045	-169	<b>12</b>	<b>6</b>	<b>7</b>	11	4	8	<b>1.89E-06</b>	15	1.35	101	7851.3226	4	9	4	6	8	1	7	5	B.E-06	4	0.35	002	
7738.5503	0	9	6	4	8	5	3	<b>1.40E-05</b>	3	0.77	<b>1.03</b>	002	7856.2935	<b>1</b>	8	5	4	7	2	5	<b>5.73E-06</b>	5	0.43	002	
7738.813	-34	11	7	5	10	5	6	<b>1.44E-06</b>	10	0.30	101	7858.4625	-30	13	2	11	12	0	12	1.1	0E-06	10	1.29	101	
7739.5220	-13	9	6	3	8	5	4	4.1	0E-05	5	0.72	002	7859.1042	26	13	3	11	12	1	12	<b>3.05E-06</b>	6	1.22	101	
7740.4929	-113	8	5	3	7	1	6	<b>8.20E-06</b>	4	0.20	101	7860.2072	0	10	3	7	9	2	8	<b>4.02E-06</b>	15	0.31	002		
7741.4624	<b>-1</b>	6	3	4	5	0	5	<b>7.87E-05</b>	4	0.35	002	7865.8474	<b>0</b>	<b>9</b>	<b>2</b>	<b>7</b>	8	1	8	<b>2.06E-05</b>	2	0.32	0.98		
7742.1233	<b>21</b>	5	4	2	4	1	3	<b>4.60E-06</b>	10	0.32	002	7870.278	<b>48</b>	<b>9</b>	<b>5</b>	<b>5</b>	8	0	8	<b>2.50E-06</b>	15		200		
7742.152	98	10	6	4	10	2	9	<b>5.53E-07</b>	15		101	7872.006	-385	9	5	5	8	2	6	<b>1.74E-06</b>	15	0.46	002		
7748.609	7	8	4	4	7	0	7	<b>3.57E-06</b>	3	0.11	101	7880.787	<b>84</b>	<b>9</b>	<b>3</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>3.79E-06</b>	<b>2</b>	0.21	002		
7750.2057	0	9	8	1	8	6	2	<b>4.28E-06</b>	4	1.94	101	7887.703	2	7	4	3	6	1	6	2.00E-06	15	0.10	002		
7750.2402	0	9	8	2	8	6	3	<b>1.28E-05</b>	4	1.93	101	7889.5747	21	10	4	7	9	<b>1</b>	<b>8</b>	<b>8.45E-06</b>	6	0.35	002		
7751.6664	1	9	9	4	5	8	3	<b>2.27E-05</b>	10	0.20	002	7892.302	-25	10	5	6	2	7	3	3.73E-06	4	0.46	002		
7755.9160	-10	8	3	5	7	2	6	<b>2.41E-05</b>	5	0.30	002	7893.500	75	7	5	2	6	2	5	<b>1.52E-06</b>	15	0.12	002		
7757.3765	-39	10	6	5	9	5	4	<b>1.67E-05</b>	2	1.04	1.02002	7895.851	-288	10	6	5	10	1	10	<b>5.33E-07</b>	15		200		
7758.5552	6	7	2	5	6	1	6	<b>7.37E-05</b>	2	0.29	1.03	002	7902.724	-405	<b>14</b>	2	12	13	0	13	<b>1.16E-06</b>	15	1.67	101	
7760.4711	2	8	1	0	6	4	5	<b>5.50E-06</b>	7	0.88	002	7912.1193	0	11	3	8	10	2	9	<b>4.88E-06</b>	3	0.33	002		
7760.7896	0	10	5	5	9	4	6	4.1	0E-06	4	0.42	002	<b>7916.645</b>	323	10	2	8	9	1	9	3.1	0E-06	4	0.33	002
7761.6662	0	13	6	8	12	4	9	<b>1.61E-06</b>	4	1.38	101	7919.8763	-76	10	3	8	9	0	9	<b>6.88E-06</b>	3	0.27	002		
7762.429	-141	6	4	3	5	1	4	<b>3.62E-05</b>	5	0.49	002	7939.592	-93	10	5	6	9	0	9	<b>1.65E-06</b>	6		200		
<b>7763</b>	.5489	-34	12	3	9	11	<b>1</b>	<b>1.16E-05</b>	3	1.13	101	<b>7965.302</b>	-252	11	2	9	10	1	10	<b>3.55E-06</b>	15	0.31	<b>002</b>		

a. R<sub>1</sub> is the ratio of the measured line strength to that given in the AFGL, 1986 listing, ref. 1

b. R<sub>2</sub> is the ratio of the measured line strength to that given by Mandin et al., ref. 7

\* asterisk denotes a doubled absorption with the quantum assignment given for the stronger transition. The strength given represents the sum of the strengths of the two comparable transitions.

o-c are observed minus computed line positions in  $\text{cm}^{-1} \times 10^5$ . Computed values derived from energy levels given in table 3.

%s are estimated uncertainties in the measured line strengths given in percent

'l'able 5. Measured line positions (cm<sup>-1</sup>) and strengths (cm<sup>-2</sup>/atm at 297K) of H, <sup>16</sup>O transitions originating from the (010) state and observed between 6572" and 7390 cm<sup>-1</sup>

observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	band	observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	band
6572. 114	9	0	9	10	0	10	<b>5.00E-07</b>	15	031	6792. 3992	1	1	0	1	1	1	<b>8.20E-06</b>	7	031
6572. 339	9	1	9	10	1	110	<b>1.00E-06</b>	10	031	6801. 6169	3	2	2	3	2	1	<b>1.55E-05</b>	3	031
6584. 701	9	1	8	1	0	1	<b>8.00E-07</b>	15	031	6802. 7382	1	0	1	0	0	0	<b>6.49E-06</b>	10	031
6587. 469	3	03	4	22			<b>8.00E-07</b>	15	031	6803. 7771	2	1	1	<b>2</b>	<b>1</b>	<b>2</b>	<b>1.00E-05</b>	<b>15</b>	031
6594. 4244	8	0	8	9	0	9	<b>2.09E-06</b>	2	031	6806. 479	2	2	1	2	2	0	<b>1.21E-05</b>	10	031
6594. 840	8	1	8	9	1	9	<b>3.97E-07</b>	15	031	6808. 7170	2	2	0	2	2	1	<b>3.40E-05</b>	4	031
6600. 104	8	1	7	9	1	8	<b>1.00E-06</b>	15	031	6812. 208	3	2	1	3	2	2	<b>6.03E-06</b>	<b>15</b>	031
6614. 575	7	1	6	8	1	7	<b>6.00E-07</b>	15	031	6820. 456	4	2	2	4	2	3	<b>7.70E-06</b>	15	031
6615. 961	7	0	7	8	0	8	<b>1.37E-06</b>	3	031	6820. 659	3	1	2	3	1	3	<b>1.93E-06</b>	15	031
6617. 0475	7	1	7	8	1	8	4.36E-06	2	031	6825. 092	2	0	2	1	0	1	<b>5.00E-06</b>	15	031
6624. 315	2	0	2	3	2	1	<b>4.04E-07</b>	15	031	6833. 559	<b>5</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>3.73E-06</b>	15	031
6628. 4285	726	8	2	7			<b>2.22E-06</b>	7	031	6837. 3238	<b>4</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>3.79E-06</b>	<b>10</b>	031
6628. 955	61	5	71	6			<b>7.00E-06</b>	15	031	6838. 910	<b>3</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>2.60E-05</b>	6	031
6636. 6005	6	0	6	7	0	7	<b>7.86E-06</b>	2	031	6839. 1951	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>8.70E-06</b>	9	031
6638. 5729	6	1	6	7	1	7	<b>2.64E-06</b>	2	031	6839. 2324	<b>4</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1.20E-05</b>	10	031
6644. 7420	5	1	4	6	1	5	<b>3.30E-06</b>	5	031	6840. 3328	<b>2</b>	<b>1</b>	<b>1</b>	1	1	0	2.10E-05	8	031
6644. 989	71	7	71	6			<b>4.00E-07</b>	15	031	6840. 689	5	3	2	5	3	3	<b>2.25E-06</b>	15	031
6645. 856	73	5	83	6			<b>9.75E-07</b>	5	031	6845. 171	6	3	3	6	3	4	<b>1.69E-06</b>	15	031
6647. 409	5	2	3	6	2	4	<b>1.60E-06</b>	15	031	6845. 4086	3	0	3	2	0	2	<b>1.45E-05</b>	10	031
6648. 251	6	2	5	7	2	6	<b>1.25E-06</b>	15	031	6846. 0470	<b>3</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3.60E-05</b>	5	031
6654. 004	63	3	73	4			<b>1.80E-06</b>	15	031	6864. 004	<b>4</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>1.00E-05</b>	10	031
6655. 955	6	0	6	6	2	5	<b>8.00E-07</b>	15	031	6866. 494	3	1	2	2	1	1	<b>1.06E-05</b>	6	031
6656. 2142	5	0	5	6	0	6	<b>4.40E-06</b>	4	<b>031</b>	6874. 460	6	4	3	<b>6</b>	<b>4</b>	<b>2</b>	<b>9.20E-07</b>	6	031
6659. 7289	5	1	5	6	1	6	<b>1.33E-05</b>	4	031	6876. 094	5	4	2	5	4	1	<b>5.20E-06</b>	3	031
6663. 2402	4	<b>1</b>	<b>3</b>	5	<b>1</b>	<b>4</b>	<b>1.60E-05</b>	4	031	6876. 3955	<b>5</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>2.18E-06</b>	3	031
6668. 588	6	3	4	7	3	5	<b>6.40E-07</b>	10	031	6876. 698	5	3	2	6	4	3	<b>1.30E-06</b>	15	210
6668. 8857	5	2	4	6	2	5	<b>7.50E-06</b>	5	031	6876. 971	4	4	1	4	4	0	<b>3.55E-06</b>	7	031
6673. 847	5	0	5	5	2	4	<b>4.06E-07</b>	15	031	6877. 001	4	4	0	4	4	1	<b>1.30E-05</b>	10	031
6674. 5035	4	2	2	5	2	3	<b>1.09E-05</b>	2	031	6878. 6458	3	2	2	2	2	1	<b>1.62E-05</b>	3	031
6674. 8185	4	0	4	5	0	5	<b>2.03E-05</b>	3	<b>031</b>	6880. 5437	5	0	5	4	0	4	<b>1.06E-05</b>	5	031
6680. 659	4	1	4	5	1	5	<b>6.30E-06</b>	<b>10</b>	<b>031</b>	6880. 8846	<b>5</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>3.45E-05</b>	<b>4</b>	031
6684. 507	5	3	2	6	3	3	9.00E-07	15	031	6882. 505	3	2	1	2	2	0	<b>6.00E-06</b>	15	031
6684. 6738	<b>3</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>6.45E-06</b>	4	031	6889. 057	3	2	2	3	0	3	<b>1.27E-06</b>	7	031
6687. 568	4	04	4	4	23		<b>1.31E-06</b>	10	031	6891. 6903	<b>4</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2.90E-05</b>	10	031
6690. 4573	4	2	3	5	2	4	<b>4.40E-06</b>	15	031	6896. 4770	6	0	6	5	0	5	<b>2.40E-05</b>	10	031
6692. 3406	5	3	3	6	34		<b>3.80E-06</b>	3	031	6896. 8336	6	1	6	<b>5</b>	<b>1</b>	<b>5</b>	<b>7.20E-06</b>	6	031
6697. 670	5	<b>1</b>	5	432			<b>9.73E-07</b>	15	031	6900. 739	4	3	2	5	4	1	<b>2.01E-06</b>	5	210
6701. 3.480	2	0	2	<b>2</b>	<b>2</b>	<b>1</b>	<b>1.21E-06</b>	<b>4</b>	<b>031</b>	6900. 8222	<b>4</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>8.00E-06</b>	15	031
6701. 511	3	1	3	<b>4</b>	<b>1</b>	<b>4</b>	<b>1.85E-05</b>	<b>15</b>	<b>031</b>	6909. 1370	4	2	2	3	2	1	2.10E-05	10	031
6701. 6184	<b>5</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>1.60E-06</b>	15	031	6911. 644	7	0	7	6	0	6	<b>5.00E-06</b>	15	031
6703. 095	<b>3</b>	<b>2</b>	<b>1</b>	<b>4</b>	2	2	<b>4.50E-06</b>	7	031	6911. 9610	7	1	7	6	1	6	<b>1.50E-05</b>	5	031
6708. 4255	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2.47E-05</b>	6	031	6915. 537	5	1	4	4	1	3	<b>9.70E-06</b>	15	031
6711. 7507	2	0	2	3	0	3	<b>3.08E-05</b>	4	031	6922. 1560	5	2	4	4	2	3	<b>1.77E-05</b>	3	031
6712. 942	3	2	2	4	2	3	<b>1.86E-05</b>	15	031	6925. 689	<b>4</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>1.16E-06</b>	<b>10</b>	<b>210</b>
6713. 5547	<b>4</b>	<b>3</b>	<b>1</b>	5	3	2	<b>5.43E-06</b>	3	031	6926. 0638	8	0	8	7	0	7	<b>9.31E-06</b>	2	031
6716. 833	4	3	2	5	3	3	<b>1.85E-06</b>	4	<b>031</b>	6926. 125	<b>8</b>	<b>1</b>	<b>8</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>3.25E-06</b>	5	031
6722. 9786	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>8.33E-06</b>	4	031	6928. 151	<b>3</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>1.25E-06</b>	15	210
6728. 017	<b>4</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>8.00E-07</b>	15	031	6928. 3235	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>3.77E-06</b>	3	210
6729. 5852	5	4	2	6	4	3	<b>4.04E-06</b>	3	031	6932. 351	9	3	7	1	0	3	<b>7.92E-07</b>	15	<b>111</b>
6730. 998	7	2	6	7	2	5	<b>1.17E-06</b>	15	031	6932. 933	5	2	3	6	3	4	<b>2.02E-06</b>	10	210
6731. 6900	2	2	0	3	2	1	<b>1.45E-05</b>	10	031	6933. 105	10	1	9	11	1	10	<b>1.95E-06</b>	10	111
6732. 517	<b>1</b>	<b>0</b>	<b>1</b>	2	0	2	<b>5.00E-06</b>	<b>15</b>	<b>031</b>	6934. 126	8	4	4	9	4	5	<b>3.16E-07</b>	15	111
6733. 7160	1	10	21	1			<b>6.80E-06</b>	7	031	6935. 697	5	2	3	4	2	2	<b>6.63E-06</b>	15	031
6740. 730	3	3	0	4	3	1	<b>1.97E-06</b>	10	031	6935. 7897	4	3	2	3	3	1	<b>2.40E-06</b>	6	031
6741. 712	<b>3</b>	<b>3</b>	<b>1</b>	4	3	2	<b>6.20E-06</b>	<b>15</b>	<b>031</b>	6935. 985	7	6	1	8	6	2	<b>4.85E-06</b>	15	111
6744. 1223	<b>1</b>	<b>1</b>	<b>1</b>	2	1	2	<b>2.01E-05</b>	5	031	6936. 4327	4	3	1	3	3	0	<b>7.60E-06</b>	3	031
6750. 695	<b>3</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>2</b>	5.10E-06	4	031	6937. 825	6	1	5	<b>5</b>	<b>1</b>	<b>4</b>	<b>2.00E-05</b>	15	031
6755. 294	0	0	0	<b>1</b>	<b>0</b>	<b>1</b>	<b>1.76E-05</b>	15	031	6942. 637	6	2	5	5	2	4	<b>5.00E-06</b>	15	031
6768. 813	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>4.00E-06</b>	15	031	6950. 951	4	2	2	5	3	3</td			

'l'able 5. continued

observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	band	observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s	band
6953. 588	7	5	3	8	5	4	<b>5.97E-07</b>	15	111	7074. 893	4	1	3	4	3	2	<b>3.96E-06</b>	15	111
*6958. 537	6	6	0	6	6	1	<b>1.19E-06</b>	15	031	7077. 045	6	0	6	6	2	5	<b>2.35E-06</b>	10	111
6959. 2380	5	3	3	4	3	2	<b>9.10E-06</b>	4	031	7078. 851	<b>4</b>	<b>1</b>	<b>3</b>	5	1	4	<b>6.20E-05</b>	15	111
6960. 030	9	2	8	1	0	2	<b>1.50E-06</b>	<b>15</b>	<b>111</b>	7079. 964	5	0	5	6	0	6	<b>1.83E-05</b>	6	111
6960. 808	8	2	6	9	2	7	<b>2.10E-06</b>	15	111	7080. 2788	5	1	5	6	1	6	<b>5.98E-05</b>	10	111
6964. 2218	8	1	8	9	0	9	<b>1.61E-06</b>	15	210	7081. 275	4	2	3	5	2	4	<b>1.00E-05</b>	15	111
6964. 930	1	1	1	1	1	0	<b>1.00E-06</b>	7	031	7083. 024	3	1	3	4	0	4	<b>4.88E-06</b>	15	210
6968. 3649	4	0	4	5	2	3	<b>6.70E-07</b>	10	111	7086. 745	1	0	1	2	2	0	<b>2.00E-06</b>	15	111
6978. 458	8	1	7	7	1	6	<b>4.00E-06</b>	<b>15</b>	031	7091. 4334	7	3	4	6	5	1	<b>1.00E-05</b>	5	111
6982. 136	6	3	4	5	3	3	<b>2.16E-06</b>	15	031	7093. 5815	3	3	1	4	3	2	<b>2.00E-05</b>	15	111
6982. 437	6	5	1	7	5	2	<b>1.10E-06</b>	15	111	7097. 972	2	1	2	2	2	1	<b>6.00E-06</b>	<b>15</b>	210
6983. 366	8	1	7	9	1	8	<b>6.00E-06</b>	15	111	7098. 633	4	3	2	5	2	3	<b>3.00E-06</b>	10	210
6983. 624	8	2	7	9	2	8	<b>4.00E-06</b>	15	111	7100. 1903	<b>5</b>	<b>1</b>	<b>4</b>	5	2	3	<b>3.52E-06</b>	15	210
6985. 749	7	3	5	8	3	6	<b>6.00E-06</b>	15	111	7101. 5677	4	0	4	5	0	5	<b>8.93E-05</b>	2	111
6986. 3873	6	3	3	5	3	2	<b>7.00E-06</b>	10	031	7102. 3210	<b>4</b>	<b>1</b>	<b>4</b>	5	1	5	<b>2.85E-05</b>	3	111
6987. 772	7	0	7	8	1	8	<b>2.90E-06</b>	15	210	7104. 204	3	1	2	4	1	3	<b>3.00E-05</b>	15	111
6989. 085	7	2	5	8	2	6	<b>2.00E-06</b>	15	111	7106. 004	3	2	2	4	2	3	<b>1.00E-05</b>	15	111
6989. 2290	8	3	6	8	4	5	<b>2.13E-05</b>	8	210	7107. 598	1	0	1	2	1	2			210
6992. 2191	2	2	1	3	3	0	<b>5.80E-06</b>	4	210	7108. 380	2	1	2	3	0	3	<b>6.00E-06</b>	15	210
6992. 869	5	1	4	6	2	5	<b>2.16E-06</b>	15	210	7110. 124	4	1	3	4	2	2	<b>2.40E-06</b>	10	210
6995. 247	2	2	0	3	3	1	<b>1.75E-06</b>	15	210	7110. 6517	7	2	6	7	2	5	<b>1.40E-06</b>	<b>10</b>	111
*6995. 391	<b>7</b>	<b>7</b>	<b>1</b>	7	7	0	<b>1.10E-06</b>	10	031	7113. 796	5	3	2	6	2	5	<b>1.34E-06</b>	15	210
6996. 0684	6	4	2	7	4	3	<b>4.04E-06</b>	10	111	7113. 8693	3	1	2	3	2	1	<b>8.30E-06</b>	15	210
6998. <b>468</b>	5	4	1	4	4	0				7121. 619	3	0	3	3	1	2	<b>8.30E-05</b>	15	210
7007. 3970	6	2	4	7	2	5	<b>3.00E-06</b>	15	111	7122. 175	5	1	5	5	1	4	<b>8.00E-06</b>	15	111
7007. 6055	7	1	6	8	1	7	<b>2.60E-06</b>	<b>10</b>	<b>111</b>	7122. 513	3	0	3	4	0	4	<b>5.60E-05</b>	15	111
7008. 0780	7	2	6	8	2	7	<b>7.50E-06</b>	7	111	7126. 6275	2	2	0	3	2	1	<b>5.70E-05</b>	7	111
7008. 865	4	1	3	5	2	4	<b>4.75E-06</b>	15	210	7127. 4222	2	2	1	<b>3</b>	<b>1</b>	<b>2</b>	<b>3.00E-05</b>	10	210
7009. 6410	9	2	7	9	4	6	<b>2.87E-06</b>	4	111	7130. 8437	2	2	1	3	2	2	<b>1.67E-05</b>	3	111
7011. 1350	5	5	1	6	5	2	<b>1.55E-06</b>	15	111	7131. 0827	2	1	1	3	1	2	<b>7.67E-05</b>	2	111
7011. 1942	8	0	8	9	0	9	<b>9.13E-06</b>	2	<b>111</b>	*7137. 2014	6	6	0	6	6	1	<b>2.72E-06</b>	15	111
7011. 2340	8	1	8	9	1	9	<b>3.19E-06</b>	4	111	7139. 7s7	6	2	5	6	2	4	<b>6.00E-06</b>	15	111
7011. 752	7	3	4	6	3	3	<b>1.65E-06</b>	10	031	<b>7143. 4111</b>	2	0	2	3	0	3	<b>1.42E-04</b>	<b>2</b>	<b>111</b>
7011. 9976	6	1	6	7	0	7	<b>4.95E-06</b>	8	210	7144. 153	1	0	1	1	1	0	<b>1.30E-05</b>	15	210
7018. 753	8	4	5	7	6	2	<b>5.36E-06</b>	15	111	7145. 72233	2	1	2	3	1	3	<b>3.60E-05</b>	6	111
7020. 9400	2	1	2	3	2	1	<b>5.55E-06</b>	5	<b>210</b>	7149. 061	7	5	3	7	5	2	<b>3.20E-06</b>	10	111
7022. 285	6	4	2	<b>5</b>	<b>4</b>	<b>1</b>				7149. 248	7	5	2	7	5	3	<b>1.20E-06</b>	15	111
7032. 411	6	2	5	7	2	6	<b>1.03E-05</b>	15	111	7149. 6800	<b>4</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>3.30E-06</b>	7	<b>111</b>
7032. 8498	5	0	5	6	1	6	<b>8.20E-06</b>	4	210	7149. 906	3	3	0	4	2	3	<b>1.75E-06</b>	15	210
7033. 7824	5	3	2	6	3	3	<b>5.61E-06</b>	15	111	7153. 0710	7	3	5	7	3	4	<b>2.19E-06</b>	6	111
7034. 744	7	0	7	8	0	8	<b>9.62E-06</b>	<b>15</b>	111	7153. 534	4	2	3	3	3	0	<b>1.15E-06</b>	15	210
7035. 395	5	1	5	6	0	6	<b>2.60E-06</b>	10	210	7153. 720	6	5	2	6	5	1	<b>1.90E-06</b>	7	111
7038. 0514	5	2	3	6	2	4	<b>7.10E-06</b>	6	111	7153. 7482	6	5	1	6	5	2	<b>5.70E-06</b>	4	<b>111</b>
7039. 281	5	3	3	6	3	4	<b>2.00E-05</b>	15	111	7154. 517	<b>4</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>7.70E-07</b>	15	210
7042. 9885	2	1	1	3	2	2	<b>2.60E-06</b>	10	210	7154. 955	<b>3</b>	<b>2</b>	<b>1</b>	4	1	4	<b>1.30E-06</b>	15	210
7046. 185	9	3	7	8	3	6	<b>3.00E-06</b>	<b>15</b>	031	7156. 4551	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3.00E-05</b>	10	111
7053. 471	4	0	4	5	1	5	<b>3.04E-06</b>	15	210	*7157. 8524	<b>5</b>	<b>5</b>	<b>1</b>	5	5	0	<b>1.84E-05</b>	3	111
7054. 7205	5	1	4	6	1	5	<b>1.17E-05</b>	5	111	7165. 260	<b>1</b>	<b>0</b>	<b>1</b>	2	0	2	<b>4.00E-05</b>	15	111
7056. 1533	1	1	1	2	2	0	<b>2.25E-06</b>	5	210	7167. 4742	<b>1</b>	<b>1</b>	<b>1</b>	2	1	2	<b>9.10E-05</b>	10	111
7056. 7553	5	2	4	6	2	5	<b>2.75E-05</b>	4	111	7170. 143	6	3	4	6	3	3			111
7057. 6875	6	0	6	7	0	7	<b>4.00E-05</b>	5	111	7172. 5079	5	4	2	5	4	1			111
7057. 788	6	1	6	7	1	7	<b>1.33E-05</b>	10	111	7173. 2488	3	1	3	3	1	2	<b>2.20E-05</b>	10	111
7058. 885	<b>4</b>	<b>1</b>	<b>4</b>	5	0	5	<b>2.32E-05</b>	15	210	7175. 9208	4	4	0	4	4	1	<b>5.63E-05</b>	15	111
7060. 105	5	3	3	6	2	4	<b>1.74E-06</b>	15	210	7180. 4971	5	3	3	5	3	2			111
7062. 304	3	2	2	<b>3</b>	<b>3</b>	<b>1</b>	<b>8.07E-07</b>	15	210	7182. 526	4	2	3	4	2	2	<b>1.00E-05</b>	15	111
7062. 852	1	1	0	2	2	1	<b>1.07E-05</b>	10	210	7186. 5998	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1.40E-05</b>	15	210
7064. 0362	<b>4</b>	<b>3</b>	<b>1</b>	5	3	2	<b>2.40E-05</b>	5	111	7187. 2050	4	3	2	4	3	1	<b>1.50E-05</b>	10	111
7066. 7142	4	3	2	5	3	3				7188. 4424	0	0	0	<b>1</b>	<b>0</b>	<b>1</b>	<b>7.90E-05</b>	6	<b>111</b>
7067. 5498	4	2	2	5	2	3	<b>5.00E-05</b>	15	111	7189. 7143	<b>4</b>	<b>3</b>	<b>1</b>	4	3	2	<b>4.70E-05</b>	10	111
7072. 440	<b>3</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>1.50E-05</b>	15	210	7189. 9640	5	3	2	5	3	3	<b>4.00E-06</b>	15	<b>111</b>

**Table 5. continued**

observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s band	observed position	upper J	K <sub>a</sub>	K <sub>c</sub>	lower J	K <sub>a</sub>	K <sub>c</sub>	observed strength	%s band
7190. 780	3 3 1	3 3 0		1.78E-04	15	111			7291. 644	4 2 3	3 2 2		1.09E-04	4	111		
7191. 1568	3 3 0	3 3 1		3.32E-05	4	111			7294. 769	5 4 2	4 4 1		2.00E-05	15	111		
7191. 5567	2 1 2	2 1 1		1.38E-05	3	111			7294. 922	5 4 1	4 4 0		6.70E-06	15	111		
7191. 812	2 1 1	2 0 2		5.40E-06	15	210			7295. 862	8 1 8	7 0 7		2.66E-06	15	210		
7193. 3927	6 3 3	6 3 4		6.05E-06	5	111			7298. 218	6 1 5	6 1 6		5.00E-06	15	111		
7194. 560	2 0 2	1 1 1		5.00E-06	15	210			*7300. 4619	6 5 1	5 5 0		3.28E-06	15	111		
7194. 686	3 2 2	3 2 1		9.00E-05	15	111			7301. 4349	5 1 5	4 1 4		1.40E-04	10	111		
7196. 4755	3 0 3	2 2 0		5.20E-06	15	111			7302. 1831	4 2 2	3 2 1		9.07E-05	3	111		
7201. 1445	2 2 1	2 2 0		5.00E-05	7	111			7304. 2940	5 0 5	4 0 4		4.70E-05	10	111		
7201. 3073	3 1 2	3 0 3		1.36E-05	5	210			7306. 1770	5 3 3	4 3 2		3.20E-05	10	111		
7203. 6577	2 2 0	2 2 1		1.23E-04	15	111			7306. 795	9 0 9	8 1 8		5.00E-06	15	210		
7204. 030	1 1 1	1 1 0		1.20E-04	15	111			7307. 3022	4 1 3	3 1 2		6.00E-05	15	111		
7204. 139	3 2 1	3 1 2		5.00E-06	15	210			7310. 0253	5 2 4	4 2 3		7.77E-05	4	111		
7204. 887	1 1 1	0 0 0		5.00E-06	15	210			7310. 451	5 3 2	4 3 1		2.00E-05	15	111		
7206. 385	3 2 1	3 2 2		2.30E-05	15	111			7316. 049	6 1 6	5 1 5		3.43E-05	15	111		
7213. 502	4 2 2	4 2 3		4.00E-05	15	111			7316. 343	6 4 2	5 4 1		1.40E-05	15	111		
7215. 138	1 1 0	1 1 1		4.20E-05	15	111			7317. 5632	6 0 6	5 0 5		1.03E-04	5	111		
7216. 9711	3 0 3	2 1 2		9.40E-06	15	210			7318. 664	8 2 7	7 1 6		5.00E-06	15	210		
7221. 718	2 1 2	1 0 1		1.75E-05	4	210			7320. 366	7 5 3	6 5 2		2.40E-06	15	111		
7226. 4330	2 1 1	2 1 2		6.00E-05	15	111			7320. 407	7 5 2	6 5 1		1.70E-06	15	111		
7235. 486	1 0 1	0 0 0		7.50E-05	15	111			7325. 5145	5 1 4	4 1 3		2.80E-05	7	111		
7235. 514	3 1 3	2 0 2		1.00E-05	15	210			7326. 323	6 3 4	5 3 3		4.80E-06	15	111		
7238. 5888	3 0 0	3 2 1		6.92E-06	6	210			7326. 342	5 2 3	4 2 2		1.80E-05	15	111		
7240. 190	3 1 2	<b>3 1 3</b>		1.00E-05	15	111			7326. 794	6 2 5	5 2 4		5.00E-05	15	111		
7244. 588	4 3 2	4 2 3		2.00E-05	15	210			7327. 406	2 2 0	1 0 1		1.50E-05	15	111		
7247. 1420	5 3 3	5 2 4		2.63E-06	10	210			7329. 7212	7 1 7	6 1 6		6.42E-05	4	111		
7247. 761	<b>4 1 4</b>	3 0 3		1.45E-05	15	210			7330. 421	7 0 7	6 0 6		2.20E-05	15	111		
7250. 240	2 1 2	1 1 1		4.43E-05	<b>4</b>	111			7334. 6117	6 3 3	5 3 2		3.07E-05	10	111		
7254. 010	5 0 5	4 1 4		2.00E-05	15	210			7335. 7080	7 4 4	6 4 3		7.70E-06	5	111		
7256. 7498	2 0 2	1 0 1		1.63E-04	10	111			7341. 951	7 2 6	6 2 5		2.00E-05	15	111		
7257. 369	6 4 3	6 3 4		5.00E-07	15	210			7342. 519	8 1 8	7 1 7		1.24E-05	10	111		
7258. 1189	<b>4 1 3</b>	<b>4 1 4</b>		1.45E-05	5	111			7342. 834	8 0 8	7 0 7		3.74E-05	10	111		
7259. 33026	2 2 1	1 1 0		7.92E-05	6	210			7346. 022	6 2 4	5 2 3		1.00E-05	15	111		
7259. 728	5 1 5	<b>4 0 4</b>		4.50E-06	10	210			7351. 698	7 1 6	6 1 5		2.00E-05	15	111		
7262. 9900	2 1 1	1 1 0		3.50E-05	15	111			7354. 936	9 1 9	8 1 8		2.21E-05	15	111		
7263. 373	6 2 5	6 1 6		1.93E-06	15	210			<b>7360</b> . 2853	6 3 4	5 2 3		4.46E-06	15	210		
7268. 6009	3 1 3	2 1 2		1.49E-04	<b>10</b>	111			7360. 754	<b>8 4 4</b>	7 4 3		1.1s-05	15	111		
7271. 7162	3 2 2	2 2 1		8.13E-05	3	111			<b>7361. 715</b>	8 1 7	7 1 6		1.00E-05	15	111		
7271. 875	6 1 6	5 0 5		7.80E-06	15	210			<b>7366. 513</b>	10 0 10	9 0 9		5.00E-06	15	111		
7274. 9983	3 0 3	2 0 2		5.50E-05	3	111			7371. 274	9 1 8	8 1 7		2.11E-06	15	111		
7276. 6875	3 2 1	2 2 0		2.42E-05	10	111			7373. 707	7 2 5	6 2 4		1.00E-05	15	111		
7279. 664	2 2 1	2 0 2		3.81E-07	15	111			7380. 800	1 0 1 9	9 1 8		5.00E-06	15	111		
7282. 121	3 2 2	3 0 3		2.50E-06	15	111			7385. 564	12 1 12	11 1 11		6.87E-07	15	111		
7285. 6675	4 1 4	<b>3 1 3</b>		6.00E-05	10	111			7385. 864	12 0 12	11 0 11		2.10E-06	15	111		
7286. 024	3 1 2	2 1 1		2.00E-05	15	111			7386. 617	8 2 6	7 2 5		5.88E-06	15	111		
7286. 915	4 3 1	3 3 0		5.00E-05	15	111			7387. 919	11 2 10	1 0 2 9		1.47E-06	15	111		
7288. 7387	4 2 3	3 1 2		1.70E-05	8	210			7389. 623	4 2 2	3 0 3		5.00E-06	15	111		
7290. 4383	4 0 4	3 0 3		1.77E-04	6	111											

\*● sterisk denotes a doubled absorption with the quantum assignment given for the stronger transition. The strength given represents the sum of the strengths of the two comparable transitions.

%s ●re estimated uncertainties in the measured line strengths given in percent